

# PROCESSOR

Products, News & Information Data Centers Can Trust. Since 1979

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### COVER FOCUS

#### Security: Is Your Enterprise Up To Speed?

Keeping on top of the latest security threats is a never-ending process. Here are tips and advice for evaluating security defenses and information on the latest technologies and trends to protect your enterprise.

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### Windows 7



We'll catch you up to date with the latest regarding Windows 7, including tips for getting it to work with existing systems and how to avoid problems others have run into while installing and implementing the OS. See page 24.

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# Assess Your Defenses

Regular Security Evaluation Is A Top Priority In A World Of Ever-Expanding Threats

by Christian Perry

• • •

**ALL IS QUIET** on the IT front. Your systems are operating as designed, and the IT staff hasn't reported a serious security breach in ages. Yet despite the calm, are you truly confident that your enterprise's defenses are ready to protect your assets if a major threat came crashing through the doors? In a world teeming with increasingly sophisticated intrusion methods, nonchalance is never a wise strategy.

"Being vigilant about monitoring for threats is essential, and enterprises need to realize this before a threat actually becomes an issue, so that threats can be managed by exception and not 'trial by fire,'" says Gene Kim, CTO and co-founder of Tripwire ([www.tripwire.com](http://www.tripwire.com)). "Many attacks take advantage of misconfigured, inadequately configured, or inconsistently configured infrastructures. It is essential to obtain visibility into all the activities, events, and changes that relate to business-critical systems and resources."

#### Know Your Security

A strong security track record might indicate that your defenses are indeed strong,



but it could instead simply reflect a string of good luck. But regardless of whether you've been hit by malware or other threats, it makes sense to occasionally test your security systems to ensure that they can handle any threats that might come your way. A closer look at your systems might reveal that vulnerabilities exist where you'd never expect them.

Take the example of a company that lost \$450,000 as a result of a banking Trojan that took advantage of several missing or

*Go to Page 8*

#### Key Points

- Although seemingly secure controls might be in place, intruders will almost always find and exploit any existing vulnerabilities if something valuable resides behind those controls.
- A thorough security assessment should not only identify your critical assets but also the potential threats to those assets and how much damage the threats could cause.
- Instead of relying solely on in-house personnel to test your systems, consider hiring an outside auditor who can approach the process without familiarity and bias.

# Third-Party Software Support

Providers Reduce Maintenance Costs But Can Infuriate Software Vendors

by Bridget Mintz Testa

• • •

**SOFTWARE SUPPORT**—upgrades, new capabilities, patches—come from the vendor. That's the way it's always been in the industry, although in other realms, people and companies are free to buy services from whomever they please.

Some independent companies have found a niche in product updates that they can do as well as the software vendors, without any need for access to source code. A number of customers have also decided they no longer want to pay the high prices of software support from the manufacturer. The two groups have come together for

#### Key Points

- Third-party application support and maintenance refers to ordinary software work that anyone can do; third-party product support and maintenance is typically performed by software vendors for licensed customers.
- When customers eliminate product vendor support, they incur a number of risks.
- Because the third-party product maintenance industry is so small, due diligence can be challenging.

mutual gain, infuriating the vendors. There are plenty of risks, but using third parties for product maintenance can greatly benefit a customer who is happy with the current product version and sees no need for new features.

#### Two Types Of Third-Party Software Maintenance

Gartner Research defines two types of third-party software maintenance. One type is what Gartner calls application and support, says Bob Igou, research director for software support services at Gartner. "This is about a part of the application that's been

*Go to Page 8*

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### 1. What is the size of your company (how many employees)?

- Less than 10
- 200 to 499
- 10 to 99
- 500 to 999
- 100 to 199
- 1,000+

### 3. What is your annual computer hardware/software purchasing budget?

- \$0 to \$9,999
- \$10,000 to \$24,999
- \$25,000 to \$49,999
- \$50,000 to \$99,999
- \$100,000 to \$249,999
- \$250,000 to \$499,999
- \$500,000 to \$999,000
- \$1,000,000+

### 2. How often do you purchase computer hardware/software?

- Weekly
- Quarterly
- Bi-weekly
- Annually
- Monthly
- No Involvement



via a Worldwide Commercial Sales team in Cisco's Worldwide Partner Organization. Cisco is also actively searching for a senior vice president for its U.S. and Canadian channel.

### IE Gains Market Share At Firefox's Expense

According to the most recent figures from Net Applications, Microsoft's Internet Explorer browser gained market share in the past month, reversing a lengthy trend of losses and snatching back share from its biggest rival, Mozilla's Firefox. Specifically, IE increased its share from 59.8% in May to 60.3% in June; Firefox, on the other hand, dropped from 24.3% to 23.8%. Net Applications attributes part of IE's gain to the increase in Windows 7 implementations. Rounding out the top five browsers are Google's Chrome, which grew from 7% to 7.2% month over month; Apple's Safari, which saw a 0.1% increase to 4.9%; and Opera, which fell from 2.4% to 2.3%.

### Windows 7 Significantly Reduces Support Costs

According to a report from research firm IDC, Microsoft's newest OS can offer SMEs considerable cost savings, including reducing support costs by 50% or more. In fact, IDC found that small companies migrating from WinXP or Vista to Win7 reduced their help desk support costs by 65%, PC/OS support costs by 55%, and deployment costs by 45%. Adding to the savings is the increase in employee productivity once users are switched to the new OS, which offers better security, less downtime, and fewer reboots. The report, which was sponsored by Microsoft, estimates that small to mid-sized enterprises that switch to Win7 can see returns on their investments as soon as 7.2 months from implementation.

# PROCESSOR

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■ There is no doubt that open-source technologies have gained traction in SMEs. But as enterprises take a hard look at open-source technologies, relevant issues must be considered before taking the plunge..... page 44

■ The idea of a computing utility isn't new but is finally coming to fruition. Virtual private clouds enable enterprises to seamlessly extend existing data centers into the cloud ..... page 45

The Processor.com home page is frequently updated with new articles and hardware news to help you keep current.

Visit [www.processor.com](http://www.processor.com) today.

## WATCH THE STOCKS

This information provides a quick glimpse of current and historical stock prices and trends for 13 major companies in the technology market.

Company	Symbol	Year Ago	June 24 \$	July 8 \$	% change from previous issue
AMD	AMD	\$3.48	\$8.13	\$7.37	▼ 9.35%
CA	CA	\$16.56	\$19.23	\$18.56	▼ 3.48%
Cisco Systems	CSCO	\$18.17	\$22.57	\$22.55	▼ 0.09%
Dell	DELL	\$13.15	\$12.93	\$12.78	▼ 1.16%
Google	GOOG	\$410.39	\$475.10	\$456.56	▼ 3.9%
HP	HPQ	\$37.30	\$39.03	\$45.48	▲ 16.53%
IBM	IBM	\$102.08	\$128.19	\$127.97	▼ 0.17%
Intel	INTC	\$16.02	\$20.32	\$20.10	▼ 1.08%
McAfee	MFE	\$40.14	\$31.43	\$31.56	▲ 0.41%
Microsoft	MSFT	\$22.44	\$25	\$24.41	▼ 2.36%
Oracle	ORCL	\$20.32	\$22.22	\$23.22	▲ 4.5%
Red Hat Software	RHT	\$19.35	\$30.78	\$30.55	▼ 0.75%
Symantec	SYMC	\$15.34	\$14.42	\$14.50	▲ 0.55%

NOTE: This information is meant for reference only and should not be used as a basis for buy/sell decisions.

### Execs Prefer Private Clouds

A recent survey from IDC indicates that 55% of IT executives prefer a private cloud over a public cloud. Only 22% say that the two cloud types are equally appealing. IDC defined a private cloud as an internal corporate cloud resource where the IT organization is the vendor, offering self-service provisioning, pay-per-use options, and simple access. When asked what applications companies would use on a private cloud, 75% of respondents said they'd run collaborative applications and 53% said they'd use it for email. IDC says that most enterprises will feature a mix of public and private clouds.

### DRAM Prices Lower

For the first time in a year, the price of DRAM decreased, and Gartner expects that the prices will slide for the rest of the year. DRAM prices had been on the rise primarily because of a shortage of chips, but when DRAM manufacturers increased production early in the year, supply and demand were no longer being taxed by the DRAM shortage. Gartner indicates DRAM had become expensive enough to account for 15% of the material cost of the average midrange PC. The cost caused PC vendors to take a tougher stance in negotiations. Competition with DRAM vendors will also help to drive down DRAM prices.

### Windows Versions Vulnerable To Attack

A new vulnerability has surfaced in Windows 2000 Professional SP4 and Windows XP SP2/SP3. According to Secunia, which published a report detailing the vulnerability, the problem is the result of a boundary error in the UpdateFrameTitleForDocument() function of the CFrameWnd class in Mfc42.dll. The attack causes a buffer overflow error that, if unaddressed, lets hackers launch code execution attacks that can take control of a computer. Through social engineering schemes, attackers can then steal data. To mitigate the situation, Secunia recommends restricting access to applications that let users input data that could be passed to the vulnerable function.

### IT Leaders Unaware Of Advanced Threats

Ponemon Institute recently conducted a survey of 591 security professionals and found that 83% of their organizations have been targeted by advanced threats, and 71% say these types of threats have increased over the past year. But even though many know they have been targeted, 41% state they didn't always know when they were being attacked. According to Ponemon, zero-day attacks are the most common, and survey respondents say that about half of the attacks they see are attempting to gain proprietary data, while the other half are looking to access personal information. Just 19% of the respondents say they feel as if their IT leaders are fully aware of the need to defend against advanced attacks.

## Proposed Legislation To Require Cell Phone Warning Labels

Ohio Congressman Dennis Kucinich is preparing legislation to require warning labels on cell phones. The labels are intended to warn users about the potential risk of cell phone use, letting them decide the level of risk they will accept. The legislation also accounts for creating a new national research program to study the relationship between cell phones and health. The research would focus on the Specific Absorption Rate, a measure of cell phone radiation set by the Federal Communications Commission that cell phone makers are required to disclose. The studies would determine if the current regulations, established decades ago, are outdated.

## Intel Announces New Research Division

Intel announced its new Interaction and Experience Research division that is designed to study and develop new forms of human/computer interaction. The company says it foresees a new user experience that will "become much more natural through gesture, voice, and touch interactions." The team of researchers will consist of user interface technologists and social scientists. Intel's new division aims to understand how people want to use technology in their lives. Possible advancements in technology include new social networking avenues, the ability to recognize everyday objects and hand gestures, and even the possibility to read human thoughts.

## Government Devotes Money To Broadband

The White House recently announced \$795 million in grants and loans designed to bolster broadband adoption and use in the United States. The money is coming from the American Recovery and Reinvestment Act, and officials hope it can create or save about 5,000 jobs. The National Telecommunications and Information Administration and the U.S. Department of Agriculture's Rural Utilities Service will distribute the money across 66 broadband projects in all 50 states. Projects include running fiber-optic cable and laying the groundwork for improved broadband access. The administration expects the subsidies to expand broadband services to 685,000 businesses, 900 healthcare facilities, and 2,400 schools. In addition to the grants and loans, private investments account for \$200 million to help with the announced projects.

## GPS Set For Boom

ABI Research reports that the No. 1 application for GPS device users is traffic information, and the audience of those who rely on traffic data from PNDs (personal navigation devices) will grow to more than 370 million by 2015; currently, PND users worldwide number about 57 million. ABI notes that more smartphones and feature phones are shipping with GPS capabilities; however, cellular-based traffic data has a tendency to be inaccurate. As the market matures, ABI says, independent traffic information vendors will need to seek new markets to accommodate for the falling revenues and increased competition.

## IT Feels The Pressure Of Workplace Consumer Devices

According to a new report from the IDC, the number of consumer electronic devices, such as computers, smartphones, MP3 players, and digital cameras, will grow to 7 billion this year. And IT organizations that are integrating these devices may not have enough resources to support a secure and scalable infrastructure for the mobile needs of information workers, or iWorkers. IDC estimates that, within the 2 billion people who use consumer electronic devices and apps, there



are 300 million iWorkers at companies with more than 500 employees. IDC expects the total number of mobile apps to reach 500,000 this year. IDC's report notes that IT departments must be willing to use new tools to keep up with consumers who use multiple devices and numerous Web applications.

## Hospitals Not Ready For Meaningful Use Requirements

Hospitals are concerned about complying with "meaningful use" requirements for e-health records, according to a study by PricewaterhouseCoopers. The HITECH Act asks healthcare providers to validate a meaningful use for the electronic records or they will not receive stimulus funds from the government. The PricewaterhouseCoopers study shows that eight out of 10 CIOs fear they won't meet HITECH's requirements and will miss out on the more than \$20 billion in funding. Healthcare CIOs are concerned about organizing priorities such as overall cost, timely return investment, access to capital, vendor readiness, and company behavioral change.

## IBM To Acquire BigFix

IBM has announced an agreement to purchase Emeryville, Calif.-based BigFix as part of an initiative to roll out updates from the data center to servers, laptops, and desktops in the enterprise—but only those updates that comply with company policy. BigFix offers a simple, unobtrusive way for a PC to receive new updates and drivers with minimal user intervention, and the BigFix software has been preinstalled on various OEM computers over the years. Terms of the deal were not disclosed, but it's expected to close in the third quarter.

## Handhelds Gain Ground In Healthcare

Healthcare market research firm Kalorama Information reports that mobile device sales in the healthcare sector are expected to surge 7% this year, reaching \$8.8 billion for the year. The report, "Handhelds in Healthcare: The World Market for PDAs, Tablet PCs, Handheld Monitors & Scanners," looks at all such devices and forecasts sales for specific healthcare categories. Products aimed at patient monitoring generated the largest increase, with a market share of 64%. The most popular devices used in the healthcare market are PDAs, smartphones, tablet PCs, and inventory or medication scanners. The report indicates that several factors are driving growth in the market, including the aging population and a shortage of medical professionals.

## Youths & Minorities Lead Growth In Wireless Internet Access

According to the latest Pew Research Center report, younger adults are the ones driving the growth of mobile Web applications. The report, "Mobile Access 2010," surveyed about 2,200 adults and determined that 90% of U.S. citizens aged 18 to 29 own a cell phone and that users in that age group are more likely than others to be accessing mobile data applications. The most popular mobile device activities in that age group are text messaging, taking photos, accessing the Internet, playing music, playing games, and recording videos. Minority Americans are statistically more likely than others to access the Internet via wireless devices.

## Oracle's Sun Acquisition Appealed In Europe

The European Commission has been asked to re-evaluate Oracle's acquisition of Sun Microsystems. The formal appeal was filed in Luxembourg by Monty Widenius, an open-source software advocate who co-developed Sun Microsystems' MySQL. Sun was officially purchased in January with the permission of both the United States and the European Union. Until the acquisition, MySQL (an open-source database program) was one of the few alternatives to proprietary programs made by Oracle,

IBM, and Microsoft. The European Commission had formally expressed its concerns before the deal was done. With promises from Oracle to keep competition healthy, however, the purchase was finalized.

## Gartner Modifies IT Spending Forecast

The European debt crisis has prompted Gartner to reduce its global IT spending forecast. Previously, the research firm predicted a 5.3% increase this year, but it now believes worldwide IT spending will grow by 3.9%. In 2009, the global IT industry spent \$3.225 trillion, and Gartner predicts spending to total \$3.35 trillion this year. Computing hardware is at the top of Gartner's list, with a projected increase of 9.1%. Gartner also forecasts software spending will grow by 3.1%, IT services will rise 2.9%, and telecom will see a 3.4% upsurge. Richard Gordon, research vice president at Gartner, says longer-term, public-sector spending will be impacted as governments try to crawl out of debt.

## Obama Backs Broadband Availability

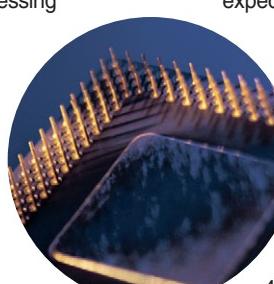
President Barack Obama has backed the FCC's plan to release 500MHz of wireless spectrum to allow for greater broadband availability. Much of the spectrum will be available for auction within the decade. The government plans to use at least some of the money from the auction to build better communications systems for emergency and public safety personnel. The extra spectrum will be gathered from governmental agencies, private companies (that would be given incentives for giving it up), and currently unused spectrum. The plan is designed to spur broadband penetration, growth in the private sector, and innovation.

## Report Looks At Enterprise Telephone System Market

Cisco and Avaya were essentially tied for first place in the PBX and key telephone systems markets in the first quarter of this year, according to a report from research firm Infonetics. The report, titled "Enterprise Unified Communication, VoIP, and TDM Equipment," shows that Avaya benefitted from its acquisition of Nortel with a 25% quarterly improvement in PBX sales, but Cisco also had a strong performance. Although neither company pulled away from the other, Cisco still enjoys a slight lead. Both companies saw their best quarter of earnings since the end of 2008.

## Motorola Details Plans To Split Company In Two

Motorola formalized the announcement that it will split itself into two separate companies called Motorola Mobility, which will handle mobile phones and home office products, and Motorola Solutions, which will control the large enterprise and networking products. Some say the move is to help counter the losses the mobile phone division has experienced during the past few years and subsequently funnel money from one company to the other. Motorola will have co-CEOs with Sanjay Jha managing Motorola Mobility and Gregory Brown running the Motorola Solutions company. The change is expected to happen next year.



## SIA Sees Increase In Chip Sales

The Semiconductor Industry Association says worldwide semiconductor sales rose 47.6% in May compared to the same month a year ago. That's a 4.5% rise from a monthly sales record set in April. Global semiconductor sales rose to \$24.7 billion in May, up from \$16.7 billion a year ago, because of strong demand for cell phones, PCs, and cars, according to the SIA. Emerging markets such as India and China are also driving demand for computers and communications products. Despite these positive results, the SIA says the chip industry should expect to see year-over-year growth rates slow down during the second half of this year.

## Upcoming IT Events

Are you looking to learn more about data center or IT topics? Network with some of your peers? Consider joining a group of data center professionals. If you have an event you'd like listed, please send an email to feedback@processor.com.

### - JULY -

#### ISSA Upstate South Carolina

July 16

NuVox

301 N. Main St., Suite 5000

Greenville, S.C.

[www.upstate-issa.org](http://www.upstate-issa.org)

• • • •

#### VMware Vsphere: Fast Track

July 19, 8 a.m.

Platform Labs

1275 Kinnear Road

Columbus, Ohio

[www.platformlab.org](http://www.platformlab.org)

• • • •

#### AITP Southwest Missouri

July 20

Springfield, Mo.

[aitpspringfield.org](http://aitpspringfield.org)

• • • •

#### ISSA St. Louis Chapter

July 20

St. Louis, Mo.

[stl.issa.org](http://stl.issa.org)

• • • •

#### Oklahoma City AITP Chapter

July 20

Oklahoma City, Okla.

[www.aitp.org/organization/chapters/chapterhome.jsp?chapter=40](http://www.aitp.org/organization/chapters/chapterhome.jsp?chapter=40)

• • • •

#### AFCOM Central Ohio

July 21

Columbus, Ohio

[www.afcomcentralohio.org](http://www.afcomcentralohio.org)

• • • •

#### ISSA Des Moines

July 26

3920 SW Camden Circle

Ankeny, Iowa

[www.issa-desmoines.org](http://www.issa-desmoines.org)

• • • •

#### ISSA Inland Empire

July 27, 11:30 a.m.

Coco's Restaurant and Bakery

60 West Foothill Blvd.

Upland, Calif.

[ie.issa.org](http://ie.issa.org)

• • • •

#### ISSA Baltimore

July 28, 4:30 p.m.

Sparta Inc.

7110 Samuel Morse Drive, Suite 200

Columbia, Md.

[www.issa-balt.org](http://www.issa-balt.org)

• • • •

#### AITP California Southland

July 28

[www.aitpcalsouthland.org](http://www.aitpcalsouthland.org)

• • • •

#### AUGUST -

#### AFCOM Dallas/Fort Worth

Aug. 10

Dallas, Texas

[www.dfwafcom.org](http://www.dfwafcom.org)

• • • •

#### AFCOM St. Louis "Gateway" Chapter

Aug. 10

Schneider Electric Technology Center

807 Corporate Centre Drive

O'Fallon, Mo.

[www.afcom.com/afcomnew/stlouis.html](http://www.afcom.com/afcomnew/stlouis.html)

• • • •

#### AITP Garden State

Aug. 10

Jim Johnston's Steakhouse

58 Eisenhower Parkway Mountain Plaza

Roseland, N.J.

[tech.groups.yahoo.com/group/aitpgardenstatechapter](http://tech.groups.yahoo.com/group/aitpgardenstatechapter)

• • • •

#### AITP Richmond

Aug. 10

2015 Staples Mill Road

Richmond, Va.

[www.aitprich.org](http://www.aitprich.org)

• • • •

#### PASS Wisconsin SQL Server User's Group

Aug. 10, 4:30

Microsoft Office

2176 Woodcrest Drive

Green Bay, Wis.

[wisconsin.sqlpass.org](http://wisconsin.sqlpass.org)

• • • •

#### Greater Wheeling AITP

Aug. 11

Wheeling, W.Va.

[www.aitp-wheeling.org](http://www.aitp-wheeling.org)

For more Upcoming IT Events, see page 10.

## PRODUCT RELEASES

The Processor Product Releases section includes brief overviews of data center products.

All products listed have been released recently, so use this section to get up-to-date with what's new on the market and to find products you need.

**Manufacturers:**  
Do you have a new product that data center/IT managers would be interested in learning about?  
Send your press release or product information to [press@processor.com](mailto:press@processor.com).

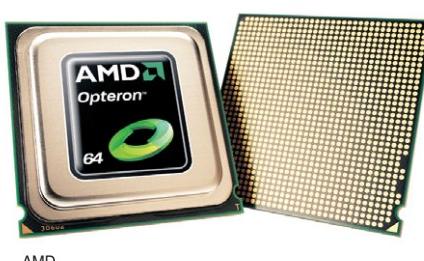
## CLIENTS

**Addonics Technologies CFast**

Addonics Technologies announced a family of CFast adapters to connect CFast media to any SATA port inside a desktop PC, rack mounted system, or notebook computer and its own brand of CFast media. The adapters include a CFast HDD adapter and a SATA CFast adapter, which is available in 8GB and 32GB capacities.

**AMD Opteron 4000 Series**

AMD introduced the AMD Opteron 4000 Series, which is a 1 and 2P server platform ideally suited to the needs of high-end embedded systems, cloud, hyperscale data centers, and SME customers.



The AMD Opteron 4000 Series platform offers four- and six-core performance at less than 6W per core, and enables users to double server density while maintaining the same power budget as the previous generation. The AMD Opteron 4000 Series platform is chipset-consistent with the 8- and 12-core AMD Opteron 6000 Series platform, and AMD claims that both platforms will support the new "Bulldozer" core, planned for 2011. The AMD Opteron 4000 Series platform starts at \$99.

**HP Compaq 6000 Pro All-In-One Business PC**

HP released the HP Compaq 6000 Pro All-in-One Business PC. This system comes with dual display capability for videoconferencing. It also features a 21.5-inch LED-LCD screen, the option of an Intel Core 2 Duo processor, and support for an optional 80GB SSD boot drive alongside its hard drive of up to 1TB.

**Minicom Advanced Systems PS/2 To USB Converter**

Minicom Advanced Systems added the PS/2 to USB Converter to its line of legacy data center equipment. The PS/2 to USB Converter is a plug-and-play connector that lets IT staff use their existing PS/2 servers, KVM switches, and KVM extenders with a USB keyboard or mouse.

**Motion Computing J3500**

Motion Computing has released the J3500, a rugged tablet PC model that's built on Intel Core vPro and Windows 7. Features include capacitive dual-touch abilities, extra-durable Corning Gorilla glass, a 160GB hard drive and 64GB or 128GB SSD, built-in 3MP Web cam, and integrated Gobi2000 mobile broadband with GPS.

**Sybase SQL Anywhere 12**

Sybase announced SQL Anywhere 12, a data management and synchronization solution for database applications running outside traditional data center

environments. The SQL Anywhere 12 requires little or no onsite IT support. Enhancements include spatial and scale-out support, mobility tools, self-management innovations, and productivity enhancements such as full-text search filtering capabilities.

## MESSAGING &amp; TELEPHONY

**Cisco Cius**

Cisco announced the Cisco Cius, an ultra-portable mobile collaboration business tablet. The device, which weighs just 1.15 pounds, provides access to Cisco collaboration and communication applications, along with virtual desktop integration. It offers full telepresence interoperability, HD video streaming, real-time video, multiparty conferencing, email, messaging, browsing, and more.

**Cisco Hosted Collaboration Solution**

Cisco introduced the Cisco Hosted Collaboration Solution. As part of Cisco Unified Communications, it lets users choose how they want to deploy collaboration applications in their company. Cisco Hosted Collaboration Solution also lets users deploy and host multiple collaboration programs on a single server in a virtualized environment.

**DataMills EdgeSafe PST2PST Backup**

DataMills released the EdgeSafe PST2PST Backup for Microsoft Outlook. EdgeSafe allows enterprises to back up their Outlook emails in one central network location while preventing data compromise. It backs up PST files from Exchange Server as well as PST files from other hosted email servers over a POP3 connection.

**ManageEngine Exchange Reporter Plus**

ManageEngine released Exchange Reporter Plus, a solution designed for Microsoft Exchange administrators to better understand, plan for, and control the use of their organization's email resources. Exchange Reporter Plus is currently accessible through an online download (starting at \$445) and gives administrators immediate access to more than 80 prepackaged reports. Charts, graphs, and text are used to provide an end-to-end view of the organization's exchange infrastructure, including individual user details, mailbox storage statistics, amount of traffic regularly generated, and presence of content disallowed by company policy. The software allows administrators to understand patterns in usage, making resource optimization and capacity planning more accurate.

**Network Equipment Technologies SmartSIP**

Network Equipment Technologies announced the release of SmartSIP, which provides interoperability for SIP endpoints and Microsoft unified communications. The SIP protocol is used to control IP communication sessions that involve single or multiple media streams. The product is the first enterprise application that uses Microsoft's UCMA (Unified Communications Managed API) to provide for the interoperability of legacy SIP endpoints. SmartSIP can be used to extend existing SIP endpoints for use

with Microsoft's Office Communications Server to reduce operating expenses by automatically provisioning selected SIP phones. Additionally, Active Directory is used for inbound and outbound call routing and caller name display.

## NETWORKING &amp; VPN

**Anfibia Software Reactor**

Anfibia Software has announced the release of Anfibia Reactor, a Web-based server monitoring solution. The product allows administrators to securely monitor connections, servers, databases, and hard drives from any location. If issues arise, alerts can be sent via Twitter or email. Historic data is collected to allow users to detect network bottlenecks and analyze CPU/MEM usage patterns.

**BLADE Network Technologies RackSwitch 10 Gigabit Ethernet Switch**

BLADE Network Technologies announced that the RackSwitch 10 Gigabit Ethernet Switch has been updated with Multicast protocols at sub-700 nanosecond port-to-port latency for high-frequency trading, market data, and video streaming, among other applications. Features include PIM Dense Mode and PIM Sparse Mode.

**Brocade 8Gbps Fibre Channel Products**

Brocade announced several new products designed to extend its SAN and server connectivity portfolio. Products include the Brocade 804 8Gbps Fibre Channel HBA for HP c-Class BladeSystem, HP StorageWorks P2000 G3 Modular Smart Array Virtualization SAN Starter Kit, and the HP StorageWorks B-series Data Center SAN Director 64-port 8Gbps Fibre Channel Blade.

**F5 Networks FirePass SSL VPN 7.0**

F5 Networks released FirePass SSL VPN 7.0, the latest version of its SSL VPN solution. Features include improved IT management, endpoint security, and upgraded hardware identification tools for blocking corporate network access. Firepass 7.0 also offers flexible deployment options, including an SSL VPN virtual appliance supported by VMware vSphere. In addition, you can use FirePass with the FirePass Client and the BIG-IP Edge Client.

**Fiberlink MaaS360 Patch Management From The Cloud Service**

Fiberlink released its MaaS360 Patch Management from the Cloud Service for IT device management. The patch management service pushes patches for Microsoft systems as well as for vulnerabilities in programs such as Java, QuickTime, and Adobe Reader. Designed to simplify IT workflow, MaaS360 manages deployment, tracking, and reporting, Fiberlink says.

**Firetide FWB-200**

Firetide released its MIMO-based point-to-point outdoor wireless Ethernet bridge, the FWB-200. The FWB-200 works with Firetide mesh networks and Firetide enterprise WLANs to maintain an efficient management system. The FWB-200 includes a radio (with external multi-element antennas) that is compliant

with the 4.9 and 5GHz multistream MIMO 802.11n standard.

**ManageEngine OpManager**

ManageEngine has upgraded its OpManager network monitoring software to offer Automatic Layer 2/Layer 3 mapping and use native VMware APIs to discover, map, monitor, and report on VMware host servers and guest instances. The APIs also support VMotion movement of virtual instances between physical servers. Details of the entire virtualized infrastructure are made immediately accessible from the OpManager dashboard and summarized in various views, including Top VMs, Top Hosts, All Devices, and



Alarms. In-depth performance information can be found through the use of the more than 70 deep VMware monitors, with all data collected being stored and available in any one of the many out-of-the-box reports. For more information on this product, see page 21.

**Motorola AP 6511 802.11n WallPlate**

Motorola released the AP 6511 802.11n WallPlate access point, which is designed to extend wireless LAN to multiroom facilities. This upcoming (4Q10) access point runs the Wi-NG OS and supports CAT5 and 6 in-wall cabling.

**Napatech NT20E2 Capture & In-Line Adapters**

Napatech has released its first 2x10 Gbps intelligent real-time network analysis adapters for PCI-Express Gen 2: the NT20E2 Capture Adapter and the NT20E2 In-Line Adapter. Both low-profile form factor models support preprocessing and offloading for improving network appliance performance. The NT20E2 Capture Adapter features GPS, IEEE1588v2, or CDMA-based time synchronization; traffic deduplication; and 10ns precision time-stamping for received packets. The NT20E2 adapters deliver 20Gbps data throughput, capturing and transmitting up to 30 million packets each second. Both products support traffic generation with configurable Inter-Frame



Gap, IP/UDP/TCP checksum generation, and time-stamp based transmission. Napatech network adapters support LibPCAP and PCAP applications such as SNORT on Linux, FreeBSD, and Windows operating systems. Each adapter is priced at \$17,919. For more information on this product, see page 21.

**Nimsoft Unified Monitoring**

Nimsoft announced enhancements to the Nimsoft Unified Monitoring architecture

## PRODUCT RELEASES

that enable customers to better monitor and manage critical business applications across the infrastructure, including SaaS, hosted, and virtualized environments. There's now a Unified Monitoring Portal that provides customizable Web 2.0 dashboards and reporting, as well as expanded resource coverage to gather data from more than 100 systems, devices, and servers.

### ■ Parallels Server For Mac 4

Parallels has released Parallels Server for Mac 4. The release aims to increase the speed and reliability of virtual environments in small businesses by consolidating multiple OSes so that a company's redundant hardware can be replaced and its capabilities extended resulting in lower power consumption, less space required, and less administration attention needed. Pricing starts at \$1,999.

### ■ RadView Software WebLOAD Professional 8.5

RadView Software announced WebLOAD Professional 8.5. WebLOAD Professional 8.5 provides complete code-free load testing that includes parameterization, correlation, and validation. The updated version introduces statistical correlation reports that help identify and isolate performance bottlenecks. This release provides superior support for AJAX and other rich Internet technologies such as the Adobe Flex AMF protocol.

### ■ Red Hat Cloud Infrastructure Solutions

Red Hat refreshed its offering of tools and expertise to help customers deploy and manage cloud environments. Red Hat also made improvements to its Red Hat Premier Certified Cloud Provider Program. The company also announced Red Hat Cloud Foundations, and Cloud Foundations: Edition One is now available.

### ■ Red Hat Enterprise Virtualization 2.2

Red Hat announced the release of Red Hat Enterprise Virtualization 2.2. Aimed at creating a foundation for the virtualization of Red Hat Enterprise Linux and Microsoft Windows, as well as for cloud computing environments, the update includes new scalability capabilities, migration tools, and features meant to enhance the product's performance and security.

### ■ Riverbed Technology

Riverbed Technology is partnering with Microsoft to release the Riverbed WAN optimization technology along with Microsoft Forefront TMG (Threat Management Gateway). Riverbed's WAN gateway combines its virtualized Riverbed Services Platform and the Steelhead appliance hardware. Riverbed customers can run Microsoft services on Windows Server 2008/2008 R2/2003, Active Directory, and DNS/DHCP.

### ■ Silver Peak VX WAN Optimization Appliances

Silver Peak has released a family of virtual WAN optimization appliances within the VX product line. The appliances are software-only versions of the

Network Acceleration to work past WAN latency, Network Integrity to correct packet delivery issues and allocate WAN resources, and Network Memory to maximize bandwidth usage. Models include the VX-1000 (up to 4Mbps WAN capacity; 8,000 simultaneous user sessions), VX-2000 (up to 10Mbps; 64,000 sessions), VX-3000 (up to 20Mbps; 64,000 sessions), and VX-5000 (up to 50Mbps; 64,000 sessions).

### ■ Tangent Web Hawk

Tangent has released the Web Hawk (\$2,995 for 150 users; \$8,990 for 1,501 to 6,000 users), a content-filtering appliance for managing Internet traffic. Features include automatic Web site filtering based on customized rule sets, Web monitoring/logging, and administrator-defined white and black lists for desktop, IP range, or user/group parameters. Malware, antiphishing, antivirus, protocol, and intrusion features are included.

### ■ WatchGuard Technologies Appliance Operating System Updates

WatchGuard Technologies launched several enhancements for their Extensible Threat Management and Extensible Content Security appliances. Features include support for cloud-based security through Reputation Enabled Defense, a proxy performance boost, a wireless small office hotspot, new Web service APIs, stronger security, faster performance, and improved management and reporting features.

### ■ ZyXEL Communications N4100

ZyXEL Communications introduced the N4100, an 802.11n hotspot gateway integrated with a four-port switch. The N4100 is designed as an access controller for service providers and features plug-and-play technology. The product accepts client configuration for log-on, supports credit card billing, and is a Wi-Fi-certified device. The N4100 is priced at \$579.99.

### PHYSICAL INFRASTRUCTURE

#### ■ HP Intelligent Power Distribution Unit

HP introduced its Intelligent Power Distribution Unit, aimed at providing precise local and remote monitoring of power consumption. The product can accurately track and control power consumption to help managers correctly provision power in the data center. The HP iPDUs feature remote management via a built-in Web engine, including power-cycle ability of individual outlets or pairs of outlets.

#### ■ Icron ExtremeLink

Icron announced the availability of its line of ExtremeLink KVM extenders, which includes the ExtremeLink 3500 with a reach of 500 meters and the ExtremeLink 4500, which supports LAN connectivity. Features include a 1680 x 1050 resolution, DVI video, three USB 2.0 ports, stereo audio, and support for all operating systems.

#### ■ Onset HOBO U12

Onset expanded the range of measurement options for its line of HOBO U12 data loggers. The multichannel versions of HOBO U12 data loggers can now measure and record kilowatts, air velocity, gauge pressure, differential pressure, DC current, and other energy and environmental parameters. The expanded measurements are possible through the introduction of a new, compact power adapter.

### ■ Panduit TX6A-SD

Panduit announced the availability of its TX6A-SD, a small-diameter Category 6A copper cabling system, which is part of Panduit's High Speed Data Transport solutions. The TX6A-SD offers a 0.24-inch cable diameter for easier cable routing that increases fill capacity up to 115%, enabling users to deploy a 10GBASE-T solution.

### SECURITY

#### ■ Astaro Security Gateway Version 8

Astaro released Security Gateway Version 8, its unified threat management hardware appliance. Now with IPv6 and country blocking support, Security Gateway Version 8 also lets different admins enjoy different access permission levels. Also new are remote user network activity logging and a new kernel and base system that provides 64-bit support.

#### ■ Attachmate Luminet

Attachmate announced the availability of Luminet, its enterprise fraud management solution. With Luminet, users can reveal user activity within enterprise applications and transform the data into usable intelligence. Features include noninvasive application-level activity capture, a screen-based visual replay with search capability, and custom analytics, including dashboards and reports.

#### ■ Barracuda Networks Barracuda Spam & Virus Firewall

Barracuda Networks introduced new features to the Barracuda Spam & Virus Firewall that are designed to enhance full inbound and outbound email scanning from the same appliance. The features work to keep confidential or sensitive information from outside disturbance by extending beyond spam and virus scanning to include broader content inspection of email.

#### ■ Bit9 Parity Suite 6.0

Bit9 announced the release of Bit9 Parity Suite 6.0, an application whitelisting solution that helps protect enterprises from targeted and zero-day attacks. Features include file integrity monitoring to prevent malware from making changes to files, registry protection, operating system integrity, and threat identification.

#### ■ Catbird vCompliance 1.1

Catbird announced the vCompliance 1.1 virtualization security and compliance solution. It includes monitoring features for enforcing the HIPAA-HITECH and PCI DSS v 1.2 regulations as well as SOX, DIACAP, and FISMA automated monitoring. vCompliance 1.1 uses Trust-Zones technology to provide security and compliance for virtual data centers, both public and private.

#### ■ ElcomSoft iPhone Password Breaker

ElcomSoft announced updates to its iPhone Password Breaker, a password recovery tool designed to unlock any encrypted iPhone, iPad, and iPod touch backups. The main new feature is support for iOS 4, although there are more than 100 new features. iPhone Password Breaker is a GPU-accelerated tool.

#### ■ Ensim Unify Enterprise Edition v2.8

Ensim announced the availability of a version of its policy-based enforcement engine, Ensim Unify Enterprise Edition. Version 2.8 helps enterprises gain more control in order to enforce compliance and security directives with features such

as Role Administration and Security, User Management Updates, and a tool for Windows 7 compatibility for password reset.

#### ■ Exar DX 1700 Series

Exar introduced the PCI Express-based DX 1700 Series cards, which are capable of simultaneously hashing, encrypting, and compressing both network and storage data. Designed for the SOHO to enterprise markets, the offering supports between 100 and 800MBps throughputs. The cards will be available by the end of July.

#### ■ eEye Digital Security Retina

eEye Digital Security announced integration of its Retina vulnerability management solution with Agilience's RiskVision IT-GRC reporting capabilities. The integration is designed to help simplify IT compliance and risk management. Retina uses nonintrusive scanning to protect servers, databases, networking devices, laptops, printers, and other network-connected assets.

#### ■ ManageEngine ADSelfService Plus

ManageEngine announced an update to ADSelfService Plus, its Web-based self-service Active Directory password reset portal. Features include the ability to enforce password histories, enable multiple administrators to log in to the application, and schedule phased end-user password or account expiration notifications. It also includes graphical identification and authentication customization.

#### ■ LogRhythm Log Management/SIEM Platform

LogRhythm announced an updated version of its integrated Log Management/SIEM platform, which is a program that's designed to eliminate information security blind spots by providing holistic visibility and relationship mapping of network activity. LogRhythm now monitors system processes and network connections on end points, provides geolocation of hosts, and maps relationships through network visualization.

#### ■ Novell Sentinel Log Manager 1.1

Novell released the Sentinel Log Manager 1.1, the first log management program available as a software appliance, the company says. SLM 1.1 comes as a preconfigured package all set to run



on a virtualized system in the data center. The image contains an OS (SUSE Linux Enterprise 11), middleware, and the SLM application itself, ready to run on industry standard platforms, Novell says. Featuring search, reporting, and data collection abilities, SLM 1.1 helps the data center prove compliance with relevant regulations. At the same time, it aids security efforts through network event monitoring and remediation.

#### ■ Palo Alto Networks GlobalProtect

Palo Alto Networks introduced GlobalProtect, a product designed to secure remote endpoints faster and easier. Like other Palo Alto solutions, GlobalProtect tackles security issues through application-, user-, and content-based policies. Remote traffic is channeled through a secure tunnel and links to the nearest Palo Alto Networks firewall.



company's NX appliances. The line aims to maximize application performance over a WAN while reducing IT-related costs. Optimization features include

## PRODUCT RELEASES

**■ Q1 Labs QRadar SIOS**

Q1 Labs introduced QRadar SIOS (Security Intelligence Operating System), which is a common framework for aggregating, storing, filtering, analyzing, and reporting on all security intelligence telemetry. It combines monitoring and analysis capabilities and is easily scaled for large infrastructures.

**■ Sepaton S2100-ES2 Series**

Sepaton released the S2100-ES2 Series, a data protection appliance for cloud computing. The solution includes secure multitenancy, DeltaStor deduplication, and Storage Pool features, Sepaton says. Using version 5.4 of the company's software, the S2100-ES2 series is marketed as a cost-effective solution for both cloud providers and the enterprise with a cloud infrastructure.

**■ Skybox Security Skybox View 5.0**

Skybox Security released Skybox View 5.0, a firewall management product portfolio that strengthens cyber security. Features of Skybox View 5.0 include change assurance workflow and change tracking capabilities, enhanced rule compliance analysis, streamlined platform administration, and scalable network mapping. The portfolio contains three products designed for enterprises and midsized organizations.

**■ Trend Micro InterScan Messaging Security Virtual Appliance 8.0**

Trend Micro released version 8.0 of its InterScan Messaging Security Virtual Appliance, a hybrid SaaS email security solution. It provides the advantages of both cloud-based security and VMware-compatible virtual appliances, the company says. The solution's aim is to stop spam and email threats before they consume network and employee resources.

**■ WatchGuard Technologies Reputation Enabled Defense**

WatchGuard Technologies unveiled the Reputation Enabled Defense cloud security service used with WatchGuard XTM or XCS security appliances. Reputation Enabled Defense scores suspicious URLs as unknown, good, or bad in order to prevent attacks from viruses, spyware, keyloggers, botnets, and similar threats. The unknown URLs are scanned by WatchGuard XTM or XCS to filter out malware; bad URLs are blocked. Reputation Enabled Defense is designed to increase Web browsing speeds because it doesn't require a full Web scan. The full URL reputation service addresses security integration and multi-functionality within enterprise networks. A one-year subscription starts at \$155.

**■ WatchGuard Technologies SSL 560**

WatchGuard Technologies unveiled the WatchGuard SSL 560 appliance, which provides access to corporate networks, applications, and data for up to 500 concurrent remote and mobile workers. The WatchGuard SSL 560 features robust logging and reporting, Desktop Sharing and Remote Assist, deep device examination, and endpoint integrity checking. The WatchGuard SSL 560 starts at \$9,150.

**SERVERS****■ Nixsys Legacy O/S & ISA Slot Workstations & Servers**

Nixsys, a provider of custom-built rackmount servers, is offering companies seeking to update their computers while still using their legacy equipment two options to do so with its ISA Slot (\$560 and up) and Legacy O/S (\$300 and up) lines. The Legacy O/S models are available in micro, midtower, and 2U/3U/4U rackmount options. The ISA Slot models come in tower and 3U/4U options, provide three or more full-sized ISA slots, and offer Intel Celeron or P4 processors. Both lines support Windows XP Professional, Win2000, Win98, Windows NT 4.0, MS-DOS, and other OSes. Additionally, Nixsys can build to other formats upon request.

**■ Oracle Sun Fire x86 Clustered Systems**

Oracle launched its latest Sun Fire x86 Clustered Systems, which consist of rack-mount servers, blades, and a 10-Gigabit Ethernet cluster fabric. The new offerings support both Oracle and non-Oracle workloads, reduce management complexity, deliver record-breaking performance, and boost operational efficiencies.

**■ Super Micro Computer AMD Socket C32 Server Solutions**

San Jose, Calif.-based Super Micro Computer announced a family of servers optimized for the new Socket C32 AMD Opteron 4100 Series "Lisbon" processors. The new servers, which can be loaded with 35-watt, six-core Opteron CPUs that consume only 5.8 watts per core, are aimed at data centers and IT departments wishing to minimize power budgets.

**SERVICES****■ SoftLayer Data Transfer Service**

SoftLayer announced a Data Transfer service for USB-compatible devices. The service is directed toward users wanting to transfer data or who have data they do not want to transmit over the network. Data Transfer is free for SoftLayer customers and can be accessed through a request form via the SoftLayer Customer Portal.

**■ SoftLayer Technologies Build Your Own Cloud**

SoftLayer Technologies released Build Your Own Cloud, an addition to the CloudLayer family. The service lets users create customized cloud servers to improve application performance, cost

efficiency, and availability. Features include customized CPU, RAM, and storage configurations; flexibility for scaling or modifying solutions; Web or portal ordering; and no fixed resource packages.

**STORAGE****■ Aleratec Hard Drive Duplicators**

Aleratec released the HDD Cruiser and HDD Copy Cruiser tower hard drive duplicator family, which ranges from \$315 to \$2,299. The line includes the 1:1 and 1:5 HDD Cruiser and the 1:11 HDD Copy Cruiser. The drive duplicators support Secure Erase Sanitization, which scrambles each drive's contents 60% faster than overwriting, Aleratec says.

**■ Arkeia Software vStorage Backup Agent**

Arkeia Software introduced its vStorage Backup Agent, which supports VMware vSphere 4 and VMware Infrastructure 3 through its application programming interface. The product can back up data to disk, tape, or from disk to tape (either locally or via WAN). As the last installment of Arkeia Network Backup 8.2, it joins backup agents for Microsoft



Exchange, SharePoint, and SQL Server, in addition to agents for Novell GroupWise, eDirectory, and iFolder. The Arkeia vStorage Backup Agent is currently available with prices starting at \$1,500 per VMware vSphere server.

**■ Exar BitWackr C Series**

Exar announced its BitWackr C Series, which is a hardware-accelerated backup-to-disk data compression product for Microsoft Windows Server 2008 servers and appliances. In conjunction with popular backup software, the BitWackr C Series can reduce both backup-to-disk capacity requirements and the amount of time it takes to create the backup.

**■ Isilon OneFS 6.0, SmartPools & InsightIQ**

Isilon announced the OneFS 6.0 scale-out storage operating system as well as SmartPools and InsightIQ software applications that provide in-depth data management. SmartPools creates a single file system and single point of management, and InsightIQ is an analytics platform that helps administrators maximize efficiency.

**■ LabTech Software LT Backup**

LabTech Software released LT Backup, a backup and disaster recovery tool. LT Backup makes it easy to deploy, automate, and manage client backup and recovery. The tool is equipped with automated recoverability tests that run daily to test backup restorations, and it features new image-based backup, which captures snapshots of the entire system.

**■ Nirvanix hNode**

Nirvanix released the hNode, which delivers on-premises, fully managed cloud storage for secure and rapid storage of large file-based datasets, and provides the flexibility to comply with even the most stringent corporate or legal data retention policies by containing data within a data center while enabling transfer to the Nirvanix Storage Delivery Network.

**■ Oracle Sun Storage 7000**

Oracle released its latest Sun Storage 7000 Unified Storage System product line, which now features built-in inline data deduplication, inline data compression, 4Gbps and 8Gbps Fibre Channel protocol support, multiple storage pools, and 1TB and 2TB SAS disk drives for twice the system capacity (576TB).

**■ QLogic FCoE ASIC**

QLogic released the FCoE (Fibre Channel over Ethernet) ASIC, which is used in the HP Virtual Connect Flex-Fabric 10Gb/24-port module for the BladeSystem platform. Code-named "Bullet," the FCoE ASIC offers flex port technology, so it can support Fibre Channel, iSCSI, or FCoE data.

**■ QNAP Systems Turbo NAS**

QNAP Systems enhanced the Turbo NAS management software with firmware version 3.3. The update includes a multimedia application, support for the QMobile App (for iPad, iPhone, and iPod touch), a firmware update feature, an ISO mount, and a resource monitor. The update also improves management of Apple Time Machine backup.

**■ Zmanda Cloud Backup 3.0**

Zmanda introduced the latest version of its Zmanda Cloud Backup offering, which is a desktop and server cloud backup product. ZCB 3.0 features enhanced geography control across data centers on three continents, support for international character sets, optimized backup of Microsoft Exchange data, support for cloud-based disaster recovery, and Internet bandwidth management. ZCB 3.0 starts at \$0.15 per gigabyte per month.

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## Start With The Basics: Save Energy & Money Right On The Desktop

BY ROD SCHER

**YOU HAVE A DUAL** responsibility to pursue “green” technology whenever and wherever possible. First, as a good corporate citizen, you want your company to improve the environment if it can; failing that, you certainly want to do as little harm as possible.

Secondly, there are dollars involved here: Green technology may require more of an initial investment, but it often results

in long-term savings. So, in addition to your responsibility as a citizen, you have a fiduciary responsibility to see that the company invests its money wisely; green tech is a wise investment.

One simple key to both types of return, environmental and fiduciary, lies in the equipment on and around employees’ desktops; there’s energy—and money—to be saved there by “going green.”

### Computers & Printers

The DoE (Department of Energy) estimates that it costs about \$80 per year to run a desktop computer and monitor in a business environment. A small business with 50 workstations thus spends about \$4,000 every year simply running its computers. Save money, energy, and the environment by investing in Energy Star-compliant PCs, monitors, and printers. (Ditto for copiers, lights, and other office equipment.) You can save additional energy by turning the equipment off at the end of the day; in most cases, the IT staff can remotely “wake up” computers if they need to install upgrades or run backups.

Printers, besides saving energy with Energy Star-compliant electronics, can also impact the environment positively when used with recycled papers, environmentally friendly inks, and ink cartridges made of recycled plastics. Use those when possible, and print only when necessary. (Wondering if your printer manufacturer offers eco-friendly paper, cartridges, and ink or toner? Check the manufacturer’s Web site; also, take a look at [www.thedailygreen.com/going-green/tips/2078](http://www.thedailygreen.com/going-green/tips/2078).)



Many laser and inkjet printers have earned the Energy Star seal of approval by meeting EPA energy-efficiency guidelines.

### Lighting

You’re wasting money and energy if you’re not using CFLs (compact fluorescents). They last up to 10 times longer, produce only 10% of the heat, and use about 25% of the energy of a comparable incandescent bulb. They’re more expensive to purchase initially, but the DoE estimates that switching will ultimately save you about nine times the original cost of the CFL bulb.



A compact fluorescent bulb can ultimately save many times its cost, according to the Department of Energy.

### Heating & Air Conditioning

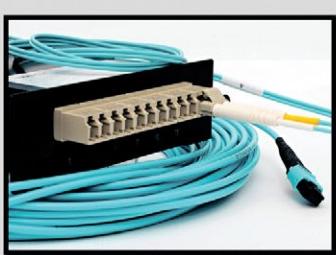
Heating and air conditioning represent a large percentage of most companies’ energy expenditures, and inefficient electronic devices (such as computers that are not Energy Star-compliant) and incandescent bulbs both contribute to heat that must then be countered by your air conditioning system.



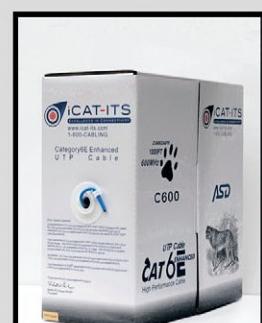
David Roylance, president and COO of Dallas-based Save-OnEnergy.com, notes that inefficient use of HVAC resources can cost you, explaining that inattention to climate control settings—especially during business downtime or non-office hours—contributes to excessive energy usage just as the use of inefficient equipment does.

Pay attention to your HVAC expenditures, and you’ll save energy and money and impact the environment that much less.

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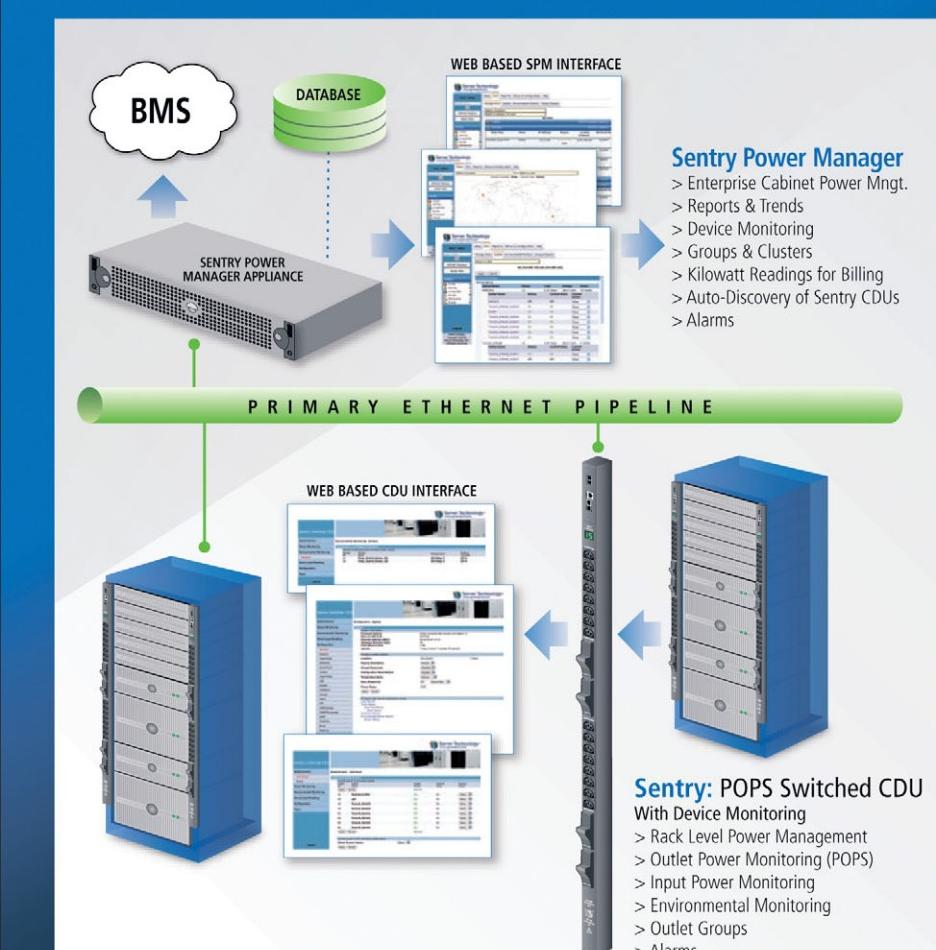
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## Assess Your Defenses

*Continued from Page 1*

inadequate layers of defense. According to Brian Beal, information security officer at Sensiba San Filippo ([www.ssflp.com](http://www.ssflp.com)), that client has since spent months and countless man-hours trying to recover from the overnight theft.

"Here is how the attack occurred: The client allowed open, unfiltered Internet access for employees, which resulted in a payroll administrator's PC getting infected with a banking Trojan," Beal explains. "This payroll employee then logged in to the company's online bank account, which was an administrator-level account, allowing the attackers to gain access to the account. The attackers then changed the password of the payroll employee's account and set up multiple new admin-level accounts, from which they transferred the \$450,000 out to accounts set up at other banks."

Several security downfalls led to the successful attack, Beal says. These included open Internet access that permitted employees to visit non-business-related Web sites; elevated privileges, which go against the recommended security principle of "least privilege," in which users are granted enough rights only to do their jobs; and lack of user awareness. "Employees need to be made aware of the vulnerabilities and threats facing company assets, and they need to know what their responsibilities are in the protection of those assets," Beal says.

"If this particular payroll admin had been trained to understand the risks of visiting non-business-related Web sites, perhaps they could have avoided the site that led to the Trojan infection."

Beal recommends conducting an information security risk assessment to determine which assets are mission-critical and to address threats that could impact your enterprise. This assessment should include the identification of critical assets (such as systems, data, and processes), identification of likely threats to those assets (such as theft, intrusion, fraud, fire, and vandalism), and determination of the values of these assets and

the estimates of potential damage. From there, the assets should be prioritized by importance, the enterprise should decide on cost-effective controls to reduce the risk to those assets, and assessment results should be documented to help facilitate an action plan to implement new policies and appropriate controls, Beal says.

### Seek Outsiders

When evaluating your defenses, relying on personnel who are overly familiar with the systems might not be the best tactic. Instead, it can make sense to employ an outside auditor—or attacker, if you will—to test those systems and look for leaks. Joseph Pedano, vice president of data engineering for Evolve IP ([www.evolveip.net](http://www.evolveip.net)), notes that although

## Expand Your Vision

The process of evaluating your security defenses isn't simply a device for putting out fires or satisfying customer complaints about specific system issues. These assessments are tied to a greater worth that ensures that the entire business can operate as expected and that its reputation remains intact, says Phil Lieberman, CEO of Lieberman Software ([www.liebsoft.com](http://www.liebsoft.com)).

"IT needs to understand that there is a substantial business value to examining security of their workstations and servers on a regular basis and [that] the implementation of enterprise security protections, monitoring, and password management can actually make their lives easier as well as protect the assets and reputation of the company or organization they work for," Lieberman says.

The investment of time, money, and resources into security is akin to insurance, he adds, except that it actually removes plenty of workload and IT-related uncertainty. But although technology is essential, good security also relies on solid organizational practices. Lieberman points to GRC (governance, risk management, and compliance) frameworks for details on these practices, but companies must first commit and agree that there is value in better security—from both organizational and investment perspectives.

these assessments might be costly, they accomplish two important things.

"They will give you a present-day assessment of where your security issues are, and most times, the auditor will give you suggestions on how to improve upon the issues they have identified," Pedano says. "Most assessments provide an 'unjaded' view into your enterprise and are easier to work with than an internal audit that might take the 'well, that's the way it is' approach."

Conducting longer-range assessments can also help to determine your overall security level. Beal recommends tracking security-related incidents (such as malware infections, incident-related downtime, and firewall-repelled attacks) over a six-month period. After any additional security measures are implemented after this six-month period, IT personnel can compare the following six months to the original assessment—and hopefully see a decrease in incidents or problems. Beal says this tracking process can occur through the use of the IT help desk ticketing system so that companies don't have to incur additional assessment costs.

Finally, don't forget user awareness training—a method that could have prevented Beal's client from losing hundreds of thousands of dollars. Evaluation should also occur here by following up on the training with surveys or interviews. By doing this over time, Beal says, security personnel can determine if there is an elevation of security consciousness as well as if the training is effective or if its message or delivery method needs to be altered. □

## Third-Party Software Support

*Continued from Page 1*

developed by the customer. That maintenance can be done by the customer or a third-party maintainer."

Application maintenance includes "development, ongoing maintenance, enhancements, and testing of enhancements," says Refael Keren, an analyst with Info-Tech Research Group. It covers the "development of new features for commercial or custom software." Companies outsource development and enhancement because they don't have the staff, Keren says. The key reason, however, is "to gain access to expertise and additional resources or to speed development."

The second type of maintenance, which is highly controversial, is product maintenance and support. It is specific to the enterprise resource planning software of Oracle and SAP, and that includes the PeopleSoft, JD Edwards, and Siebel acquisitions of SAP. "It's the human resources modules primarily," Igou says. The maintenance of these products "is the purview of Oracle and SAP," he says. "It includes updates and support when there are problems."

### Virtual Monopoly

Oracle and SAP have established virtual monopolies on the support and maintenance of their products. "The majority of maintenance is bug fixes, patches, and updating for new platforms and for international use," says Vinnie Mirchandani, founder of Deal Architect ([www.dealarchitect.com](http://www.dealarchitect.com)), a firm that negotiates various types of IT contracts for clients.

"The second type of maintenance concerns the regulatory changes, which the government defines, so it's public domain stuff," Mirchandani says. "The third type of maintenance involves new features. The software companies spend about 2 to 5%

of their budget on new features, so it's only a small portion of what the software publisher delivers. By version six or seven, customers realize this."

Mirchandani also points out that the annual maintenance profit margin of 17 to 30% of the official value of the software license is much too high, especially when most customers don't use all of the product capabilities. "Maintenance fees have no relationship to the actual value," he says.

Software vendors have also automated or offshored most of their support, he says. "Buyers know the costs there are one-third to one-half of the cost of doing it in the United States," Mirchandani says. User communities may also serve as the product troubleshooters and problem-solvers, and that's free to the software vendor.

The result of these realities? Customers no longer want to pay those annual product maintenance fees.

### Weighing The Risks

Third-party maintenance for both applications and products has consequences. If a customer wants to hire a company for application development and enhancement, it can't do it overnight.

"You don't just switch service providers to reduce costs," Keren says. "To succeed in application outsourcing, you must develop a long-term relationship with the provider." Of course, first the customer must find and evaluate a provider, which can be difficult.

Consequences for using third parties for product maintenance are much higher than for using them for application maintenance, though. "If they leave Oracle and SAP, customers save a lot of money," Igou says, adding that third parties charge about half of what the vendors charge.

"But you don't get updates, and you must keep your environment very stable," he says. "For example, you must keep the same operating system because the product was designed to work with that operating system."

What third-party providers can't handle are problems with the source code, because they aren't privy to it. Fortunately, "most software problems are configuration problems or some change by someone, such as a change in scripts. This is ordinary IT maintenance, and third parties can handle this stuff," Igou says.

Third-party maintainers can't write patches or upgrades, either, but they are able to do the regulatory updates, which must be done for legal compliance. Some third parties just focus on the updates, Igou says. "Others do more full-fledged stuff, including consulting."

Those aren't the big risks for using third-party product maintenance providers, however. The software vendors "are making every kind of threat possible to scare buyers," Mirchandani says. "They are starting to [tell buyers] 'If you leave us and come back, you must pay us in full for every year you were gone or we'll never sell you a piece of software again.' They

are also starting to sue the third-party maintainers." Such lawsuits also present risk for the customer.

Mirchandani believes that the government will eventually step in to eliminate the product maintenance monopolies. If it doesn't, he thinks customers will join together in protest and force the issue.

### Market & Due Diligence

Because the business of third-party product maintenance companies comes from legacy versions of Oracle and SAP products, Igou says the market segment is tiny. "The vast majority of customers stay up on the software. The customers are those who have decided to stick with one version," he says.

Mirchandani says "it's not a very established industry, and the companies constantly live in the shadow of lawsuits from vendors." The small size of the industry and the threat of lawsuits mean "the market is not as well-defined or as transparent as it could be," he says. "It's harder to do due diligence. So the biggest thing to do is ask for a bunch of references, test drive them on a couple of modules or for a short period of time, look at their facilities, and have your lawyers look them over." □

## Oracle & Rimini Street Sue Each Other

In January, Oracle filed a lawsuit against third-party product maintenance provider Rimini Street, claiming that the Las Vegas-headquartered company had stolen its intellectual property. Then Rimini Street countersued for, among other things, copyright misuse, defamation, and unfair competition.

"If Oracle prevails, the most that would happen is that Rimini Street would have to change its practices to not help customers download product updates, but it could still help them with installation," says Bob Igou, research director for software support services at Gartner.

And if Rimini Street wins? "One court acknowledges that the customer has a choice," says Vinnie Mirchandani, founder of Deal Architect ([www.dealarchitect.com](http://www.dealarchitect.com)). However, he adds, "One court decision won't change the software vendors' behavior much."

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by Tessa Warner Breneman

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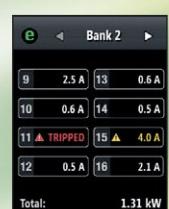
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For more Upcoming IT Events, see page 3.

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- • • •
- Southern New England SQL Server User's Group**  
Aug. 11  
[www.snesug.com](http://www.snessug.com)
- • • •
- AITP Washington D.C.**  
Aug. 12, 6:30 p.m.  
Alfio's Restaurant  
4515 Willard Ave.  
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[aitpwashdc.ning.com](http://aitpwashdc.ning.com)
- • • •
- ISSA Northeast Ohio**  
Aug. 12  
Cuyahoga County Library-  
Parma South  
7335 Ridge Road  
Parma, Ohio  
[www.neoissa.org](http://www.neoissa.org)
- • • •
- SQL Server Society of Las Vegas**  
Aug. 12  
The Learning Center of Las Vegas  
777 North Rainbow  
Las Vegas, Nev.  
[ssolv.com](http://ssolv.com)
- • • •
- AITP Southwest Missouri**  
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[aitpspringfield.org](http://aitpspringfield.org)
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- ISSA St. Louis Chapter**  
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St. Louis, Mo.  
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Oklahoma City, Okla.  
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- ISSA Des Moines**  
Aug. 23  
3920 SW Camden Circle  
Ankeny, Iowa  
[www.issa-desmoines.org](http://www.issa-desmoines.org)
- • • •
- ISSA Baltimore**  
Aug. 25, 4:30 p.m.  
Sparta Inc.  
7110 Samuel Morse Drive  
Suite 200  
Columbia, Md.  
[www.issa-balt.org](http://www.issa-balt.org)
- • • •
- ISSA Inland Empire**  
Aug. 31, 11:30 a.m.  
Coco's Restaurant and Bakery  
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Upland, Calif.  
[ie.issa.org](http://ie.issa.org)
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Sept. 8  
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and Technology  
326 Market St.  
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## COVER FOCUS

# Today's Biggest Security Threats

Danger Could Be Just Around The Corner If You Don't Stay Abreast Of New Issues

by Carmi Levy

AT A TIME when threats against enterprise infrastructure are increasing like never before, IT security decision makers are challenged by the rapidly changing nature of these threats. Using conventional tools and processes to protect the perimeter is no longer enough as applications and data migrate to cloud-based and mobile platforms. IT shops that aren't rethinking the threat environment are leaving themselves unnecessarily vulnerable.

Traditional firewalls, for example, are unable to keep pace with new forms of attack that target applications instead of operating systems and hardware. The gradual migration of enterprise functionality outside the firewall only adds to the challenge.

"Social media, blogs, wikis, video, mobility, AJAX, and file sharing are just a few of the Web 2.0 applications that are commonly used, yet not secured by traditional firewalls," says Jonathan Hoppe, president and CTO of Cloud Leverage ([www.cloudleverage.com](http://www.cloudleverage.com)). "In addition, DDoS threats and botnets become more prevalent all the time and can cripple traditional firewalls with limited capacity."

## Clouds In The Forecast

Cloud-based solutions, in particular, are pushing the bounds of conventional security methodologies.

"This technology has proved incredibly valuable to enterprises worldwide in managing capacity, but because of the fact that it resides outside of corporate firewalls, it is very difficult to protect," says Hoppe, who adds that as cloud-based implementation continues its mainstream push, enterprises will look to cloud-specific IPS and firewall solutions as a second layer of protection.

Behaviors also continue to rank high as potential security weaknesses. Unfortunately, insider threats are often mistakenly overlooked by outward-focused IT security leadership. Terry Cutler, a premium services engineer with Novell Canada ([www.novell.com](http://www.novell.com)), says end users in many organizations are typically given too much access for their respective roles. Even if their subsequent explorations aren't malicious, Cutler says they can represent the most significant threat to the organization. And if they are malicious, employees using this data for alternative purposes can damage the organization's bottom line and credibility.

## More Mobile, Less Controlled

As more mobile devices—often purchased by employees instead of procured centrally through IT—connect to corporate infrastructure, the risk grows.



Employees typically have much greater control over installing and configuring apps on mobile devices than on average IT-managed corporate PCs.

"Consumers are also increasingly accessing the Internet on these devices to check bank balances and conduct e-commerce transactions," says Ansh Patnaik, director of industry solutions at ArcSight ([www.arcgis.com](http://www.arcgis.com)). "In other words, smartphones are approaching desktops in terms of value to cybercriminals while protection measures are much weaker. That's why many experts predict that mobile malware will hit hard this year."

The increased need for employees to self-manage Internet-based resources—functionality that was once IT's exclusive domain—increases the potential number of incursion points.

## The Rise Of Anti-Social Media

Greater use of social media tools at all levels of the typical organization also spells bad news for IT security. Hackers are locking in on rising rates of participation in services such as Twitter and Facebook to build customized "spearphishing" attacks. Cutler cites an example of employees attending a conference who tweet that they're glad to be home. Hackers could then use that information to email them a link to pictures taken at the event. The potential for click-through is much higher because it doesn't seem to be coming from a stranger.

Cutler says this is representative of new styles of attacks where a hacker uses detailed information about his target to improve his odds for success by crafting a

## Key Points

- Traditional firewalls are becoming inadequate as a growing percentage of corporate IT resources rely on the Internet and cloud-based resources.
- Increasingly capable smartphones open up new avenues for security vulnerability, meaning conventional management tools and processes—built for traditional PCs—are inadequate.
- Employees using social media can make it easy for hackers to target individuals with customized spearphishing attacks or to use the employees' information to spread malware and build botnets.

compelling email message and Web page. The social media threat also extends beyond socially engineered attacks.

"Cybercriminals are leveraging the socially viral nature of these networks to spread malware and convert hosts into bot zombies," says ArcSight's Patnaik.

"The continued increase in the use of social networks at work makes Internet-facing desktops inherently vulnerable and a conduit for cybercrime."

## Threats Get Quieter

The nature of attacks is also changing. Gone are the days of big-bang incursions. The TJX data breach that exposed more than 45 million credit and debit card numbers went undetected for well over a year.

"We used to know when bad things were happening because it'd be a major network event, such as outages, failures, [or] traffic spikes," says Matt Jonkman, founder of Emerging Threats ([www.emergingthreats.net](http://www.emergingthreats.net)), an open-source community project that creates intrusion detection signature and rule sets. "Unfortunately, now the attackers intentionally stay extremely quiet. The pain will come in the infections that have been resident for weeks or months. Recovering from these breaches and identifying the information and credentials that may have been compromised is a herculean task."

Preventing those breaches in the first place is especially critical as the need to protect confidential customer and stakeholder data continues to escalate. CDW's most recent Threat Prevention Straw Poll highlights data loss as the main threat that's attracting most organizations' focus.

"Data loss is possibly the biggest security-related threat," says Stan Oien, manager of security solutions for CDW ([www.cdw.com](http://www.cdw.com)). "Whether it is from parties inside the organization maliciously taking or destroying information or simply broken operational processes that lead to data loss through negligence, the threat is real." P

## New Forms Of Data Present New Vulnerabilities

As federal stimulus funds work their way through industries such as health care and utilities, they may be creating new categories of data that are especially ripe for attack.

"Medical identities carry a huge premium over other identities such as credit card numbers in the black market and will increasingly be targeted with old and new threats as they are digitized and used on the Internet," says Ansh Patnaik, director of industry solutions at ArcSight ([www.arcgis.com](http://www.arcgis.com)). "Similarly, SmartMeters are being deployed at millions of homes and businesses [to closely monitor electricity usage] and introduce new opportunities for cybercrime as well as cyberterrorism."

IT must categorize and protect these emerging forms of data to stay ahead of the evolving threat curve.

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## PC Market Expected To Show Significant Growth, Shifts This Year

In the first quarter of this year, global PC sales had a respectable 27.1% year-over-year growth, according to IDC. The research company predicts PC shipments to increase by 19.8% this year. IDC's Worldwide Quarterly PC Tracker predicts such market trends in a five-year quarterly forecast encompassing desktop PCs, notebooks, tablet PCs, netbooks, and more. IDC says total PC shipments this year will equal 354.8 million units, compared to last year's 296.1 million units shipped.

### Fueling The Growth

Unlike in 2009, higher-priced items are dominating the PC market this year, according to IDC. Minnotebooks and netbooks were the driving force for the computer market throughout the recession; however, this year, IDC predicts that minnotebook sales will lessen, with a total percentage of the PC market expected to stay below 12%.

If IDC's forecast proves accurate, mainstream notebooks will dominate global PC shipments for the next few years. This year, portable PCs are expected to secure a 28.6% sales increase worldwide and a 23.8% increase in the United States alone. Portable PCs will hold a whopping 70% share of the total PC market (both consumer and commercial segments) by 2012, according to IDC.

The popularity of all-in-one PCs, e-readers, and tablet devices must also be taken into account when looking at the driving force behind the rise in PC shipments. Desktop PCs experienced a significant drop in sales last year, resulting in a 12.3% decline. With the popularity of the all-in-one PC, IDC predicts worldwide desktop PC sales will have a growth rate of slightly more than 8% this year. IDC also credits enterprise PC upgrades for the improved sales of desktops and notebooks.

The forecast shows "emerging regions" are the anchor for much of the PC market growth ahead. Emerging regions experienced a 37% growth in the first quarter of this year compared to first quarter sales last year, which is a record high. Of the 354.8 million units expected to ship this year, IDC expects the United States will account for 79.9 million of those units.

by Antona Beckman



## COVER FOCUS

# Security Spending Strategies

SMEs Must Determine Where & How Much To Invest Without Overkill

by Bruce Gain

MANY ENTERPRISES in North America will be able to reduce their spending on security by 3 to 6% of their overall IT budgets by the end of 2011, according to a report issued by analyst firm Gartner last month. Those enterprises that have "very mature" security practices in place or that have recently updated their IT security will be able to reap



### Key Points

- It is critical to quantify security budgets to be able to weigh them against the cost of not being protected for a particular security risk.
- Realize that the security budget will vary significantly according to the enterprise's sector and size of the overall IT budget.
- Remember that at the end of the day, hardware is easily replaced—it's valuable data and information that need securing most.

even more efficiencies, Gartner says. All told, the report says that IT security spending will decrease as a percentage of IT spending overall from an average of 6% in 2009 to 5% in 2010. However, even as enterprises are collectively able to invest more wisely and efficiently in security while reducing their budgets, determining how much to spend still varies according to a number of factors.

"[Security spending] depends on how much was spent in the past to bring things up-to-date and to meet the enterprise's definition of 'due care' and 'commercially reasonable' security," says Victor S. Wheatman, a managing vice president at Gartner. "But we know of companies that spend far less—1 to 2%—because they are at a level of maturity and have updated their systems, while other companies need to spend more to overcome vulnerabilities, to adjust after a merger, or to implement new programs as the economy improves. [If] an enterprise spends more or less than what is recommended, that is OK, but they should understand why."

Deciding how an enterprise's IT security budget should be spent depends on several factors.

### The Industry Factor

A Web-based business that derives revenue from paid ads but stores no customer data obviously has fewer security needs than an online retailer, a financial services firm, or a healthcare provider that retains very sensitive records. This is why IT departments' security spending as a percentage of their total IT budgets varies significantly.

"It definitely varies considerably by industry," says John Baschab, managing director of the Provali Group. "Industries and organizations with significant practical

requirements or compliance necessity for security have to spend a lot more, such as the financial services, healthcare, and government [sectors]."

Total IT spending needs to be factored in, as well. "If companies have relatively low IT budgets (overall), the percent spent on information security may be higher, and vice versa," Wheatman says.

### The Cost Factor

In an ideal world, the person in charge of security would have a budget and the knowhow to select the most robust security protection devices and software available to ward off any conceivable threat, while also meeting or surpassing the standards of any regulatory compliance mandate in existence. Unfortunately, very few enterprises, especially in the small to medium-sized sector, have such a luxury—much less the knowledge to assess the myriad and ever-changing types of threats out there. As admins know all too well, threats can range from talented hackers who know how to penetrate the network to new variations of malware that can compromise customer data. Instead, the issue is to attempt to determine the different known security threats and to weigh how much protection costs vs. the price of compromised data.

"It is [necessary] to articulate how many records need to be protected or how much money a company can save. It comes to [assessing] another layer of security to protect information," says Joe Malec, the St. Louis chapter president of ISSA (Information Systems Security Association; www.issa.org). "A good example is cyber insurance, but sometimes it is difficult for a company to spend half a million dollars a year to prevent \$50 million a year of potential loss."

It is also critical to assess the impact of security measures on business processes when setting the security budget. Too many VPN tunnels, passwords to retain and use, and other security measures can sap user productivity. "When balancing business needs with security, you don't want security to impact the business to the point where it impedes operations or their ability to make money, so then it ends up costing more money and becomes a harder sell, too," Malec says.

However, particularly for smaller businesses, many security holes remain unplugged due to budget constraints and

because upper management does not understand how crucial certain security layers are, Malec says. It is critical to be able to demonstrate how the value of investments in certain security layers outweighs the risks. "There are a lot of politics in security. Different people perceive things differently about how value is added," Malec says. "You do some research and make some proposals and then try to sell it to the company where someone has to think about the impact on operations and cost—although they may not be convinced of the cost benefits."

### Understand What Needs Protecting

It may turn out that your enterprise is overspending to protect assets that are really not worth that much or are covered under existing insurance policies that you may not have known about. As a rule of thumb, it is recommended to ensure that intellectual property is locked down properly and given priority vs. throwing too much money at protecting hardware assets, says Clive Longbottom, service director for business process facilitation at Quocirca (www.quocirca.com).

"Spending lots of money to physically secure a server, some storage, or mobile devices may seem to make sense, but for hardware commodities, trying to insure a lump of metal and silicon worth a few hundred to a few thousand dollars is missing the point," Longbottom says. "If these are lost, stolen, or otherwise compromised, replacing them is a small cost."

Rather, the data and information you are protecting is what's most important, he explains, and if done correctly, "security finally becomes what it should be: a means to enable things to be done, rather than a way of stopping things from happening," Longbottom explains. "For example, if a document has the right security, certain types of people within an organization will be able to open it, while others won't."

Bringing in outside help from an auditor or another expert is a good source for objective expertise and is a way to gather concrete metrics to demonstrate to the enterprise why a certain security investment is mandatory. "They can recommend options and budget ranges, as well as evaluate your spending plan," Baschab says. ▀

### Comparing Notes

An objective way to check to see if your IT security budget is spent wisely is to compare and contrast what is in place vs. other enterprises in the same sector. There are so many so-called "must-have" security layers that it is very easy to lose sight of what may be missing, while studying the approaches of other enterprises can serve as a valuable point of reference. "Benchmarking against other companies and sharing information collegially can help determine if a company is approaching security from a due care/commercially reasonable security context," says Victor S. Wheatman, a managing vice president at Gartner.

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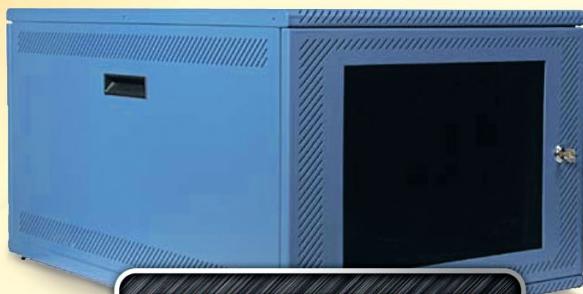
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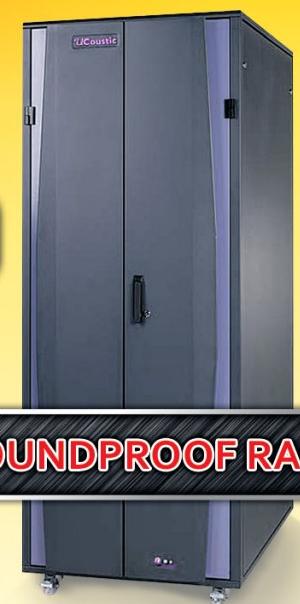
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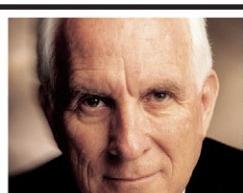


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## ■ Security Testing Reveals Gaps

NSS Labs, a company that does independent security software testing, found that security software from major vendors takes an average of two days to block newly created Web sites that are designed to attack visiting computers. Additionally, NSS Labs indicates that as many as 50,000 new malicious programs are detected every day. The tests results were categorized under recommended, for the top-performing suites considered most reliable; neutral, for suites that performed relatively well and are fine for continued use; and caution, for suites that performed poorly and are not advised for use. Response times ranged from 4.62 to 92.48 hours.

## ■ Oracle Announces Profits Boosted By Sun Acquisition

Oracle announced that Sun Microsystems, which the company acquired in January for \$7.5 billion, earned \$400 million in non-GAAP operating income, as opposed to the \$147 million loss it posted one year ago as an independent company. Additionally, Oracle President Charles Phillips said Oracle increased its application business by 5% in the past year and 60% in the past four years. Its net earnings reached \$2.4 billion, which is up 25% from last year, with software license and product support revenues gaining 12% to total \$3.4 billion. Oracle also posted a 15% revenue increase for all of fiscal 2010, with \$26.8 billion; for fiscal 2009, Oracle reported \$23.3 billion in revenue.

## ■ iPhone 4 Costs \$188 To Construct

According to new research from iSuppli, Apple's iPhone 4 costs about \$188 to build. iSuppli took apart the phone and analyzed the estimated cost of each component. As with previous generations of the iPhone, Apple has tried to maintain a build cost between \$170 and \$180. iSuppli estimates that the most expensive component is the screen, priced at \$28.50. The device's NAND flash memory chip costs \$27, and the A4 processor costs about \$10.75 per chip; both are manufactured by Samsung. The retail cost of a 16GB iPhone is \$199 with AT&T's two-year contract; purchasing the same device without a contract will set consumers back \$599.



## ■ Study: Mobile Social Networks Can Leak Personal Data

A newly released study from WPI (Worcester Polytechnic Institute) has revealed that mobile social networks are not retaining user privacy. Each of the 20 sites examined in the study reportedly leaked private information about its users to tracking sites. After examining 13 mobile social networks, such as Flickr, Four-square, and Gowalla, and seven traditional online social networks, such as Facebook, LinkedIn, and Twitter, the study shows that the leaked data in many cases contained a user's unique social networking identifier. With this identifier, third-party sites can connect the records they keep of browsing behavior to users' social networking profiles and in some cases can track users' locations.

## COVER FOCUS

# The Latest Security Technologies & Trends

A Look At What's Happening In The Security Field, From Technology To Strategy

by Elizabeth Millard

• • •

**JUST AS THREATS** are ever-evolving, so are security technologies and strategies to combat them. Enterprises face new foes every day (for more on the biggest enterprise security threats, see "Today's Biggest Security Threats" on page 10); fortunately, security experts are continually working to provide better protection for enterprises facing security-related problems. Here's a glimpse at the latest in the security field.

### Current Landscape

Traditional data loss prevention technologies have made a good deal of traction in the past year, notes Joe Yeager, a product manager at Lancope ([www.lancope.com](http://www.lancope.com)), a network performance and security monitoring firm.

"Technologies to monitor data in motion using deep packet analysis have become quite good, and data-at-rest technologies have employed quite sophisticated crawling and tagging techniques," he says.

These types of technologies can reveal how much data is leaving the network on a person-by-person basis, broken down by Internet destination. The analysis provides end-to-end visibility that can be used to baseline a normal amount of traffic for a given user and notify IT when that level is unusual, Yeager says. Also helpful is that the analysis can look for command-and-control traffic to root out botnet-infected hosts or find any unexpected country-specific traffic.

By getting a better hold on how traffic is flowing within an enterprise, IT can boost security and lower data loss risk, Yeager says.

### Importance Of Policies

One major security trend isn't about technology tools at all; rather, it's the implementation of solid security policies that reach across an organization. This has become especially vital in an age of social

networking, when the lines between consumer and business applications of technology are increasingly blurred. For example, an employee might use Facebook to tout a new product or depend on Twitter to update clients.

According to a recent application usage and risk report from Palo Alto Networks ([www.paloaltonetworks.com](http://www.paloaltonetworks.com)), users often ignore the associated risks, such as noncompliance, data loss, and threat propagation.



These risks can jeopardize a company's network, but in response, IT managers can't simply block "Enterprise 2.0 applications," according to René Bonvanie, vice president of worldwide marketing at Palo Alto.

In order to enhance business productivity and mitigate security risks and compliance violations, Bonvanie says, IT should define and enforce policies that safely enable social networking applications.

Policy enforcement is also increasingly necessary for use of mobile devices, adds David Lingenfelter, information security officer at Fiberlink ([www.fiberlink.com](http://www.fiberlink.com)). IT needs to have some level of control over how information is handled and accessed, and this has led to more specific policies about how employees connect to online resources, how often they change passwords, and whether they can

### Addressing The Threats

Small to midsized enterprises should already be using standard security technologies, such as antivirus and firewalls, notes Randy Abrams, director of technical education at ESET ([www.eset.com](http://www.eset.com)), a maker of antivirus software. But SMEs could also benefit from a vulnerability scanner to help ensure that their systems are patched.

"All businesses should have an encryption solution so as to help prevent the compromise of data in the event of the loss of a device," he says. "Appliances that include intrusion prevention and detection as well as other technologies, such as network access control, antispam, antivirus, and other security features, can help a business with limited resources to more comprehensively protect their environment."

Also helpful is hiring a qualified security company that can audit the business and point out security exposure areas, as well as train employees in how to use tools more effectively. Abrams notes, "No matter how great the tool is, if you don't know how to use it, then its value is dramatically decreased."

### Key Points

- Data loss prevention technologies are being used more often, providing stronger protection for enterprises.
- Specific policies for application and device usage are on the rise and help to address security issues that crop up when the line between personal and professional gets blurred.
- Companies are now leaning toward a layered, centralized approach with multiple security points within the network instead of just around the network.

download applications. Policies are also being tweaked to specify what happens to a device when an employee leaves a company—whether it's recycled after being set to factory defaults, for example.

"Having policies in place to lay the groundwork of how [these devices] will be handled is an important part of allowing the equipment to connect in the first place, since employees need to understand the limits and boundaries they are going to be required to follow," Lingenfelter says. "Security plays a very big role in having devices connect to the network, and security has to start with a policy."

### Central Security

In terms of other strategy trends, more enterprises are looking toward layered, centralized security with multiple protection points within a network, rather than simply trying to protect a network parameter.

Because of the increased use of virtualization, clouds, and online applications, simply surrounding a network with security measures isn't enough anymore. A network now has to be somewhat porous for business efficiency, which means that enterprises are looking at ways to implement security at numerous levels.

According to network security firm Fortinet ([www.fortinet.com](http://www.fortinet.com)), there's increased focus on preventing infections from cross-pollinating between virtual machines. IT managers are also taking a hard look at cloud-based services, which can open enterprises to risks and vulnerabilities as data is shuttled through multiple networks.

Technologies for data loss prevention and risk mitigation are cropping up more frequently for cloud environments, with some companies offering remote management, better software patching, or cloud-specific security assessments.

Second-layer security is also becoming popular, Fortinet notes, helping enterprises have better application control and, in particular, more functionality beyond letting users have access.

Security technology and tactics may evolve slightly as threats emerge, but by staying on top of the trends and putting solid policies in place, data center managers can have a better chance of foiling the bad guys. □

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# Data Center-Grade UPSes

## Product

## Active Power CleanSource UPSes



## Description

Active Power CleanSource UPSes are energy-efficient, battery-free UPS systems that use integrated flywheel technology. CleanSource UPSes protect mission-critical data center operations from everything from short power disturbances to complete outages. With an energy efficiency of up to 98% and more than 77 million hours of runtime in the field to date, CleanSource creates a predictable, continuous power system that will ride through power outages to keep critical operations up and running.

- Seven times less likely to fail compared to conventional systems
- Energy efficiency up to 98%
- Battery-free means no damaging battery fumes, gases, or hazardous material
- Space-efficient at a quarter to half of the footprint of conventional systems
- Reduces total cost of ownership by 60%
- 75% reduction in carbon emissions

**Best For:** Organizations looking for an energy-efficient solution.

**Price:** Starts at about \$80,000

## Eaton 9390 UPS



The Eaton 9390 is a double-conversion UPS that supplies clean, continuous, uninterrupted power to connected equipment in midsized data centers. The 9390 was recently among the Eaton UPSes that were deemed compliant with the U.S. TAA (Trade Agreement Act). TAA-compliant products have been approved by the U.S. government for use in a range of government facilities, including schools, courthouses, libraries, and state facilities. The 9390's transformer-less design offers increased efficiency over transformer-based UPSes. It is designed to deliver the reliability and uptime necessary for critical applications.

- Up to four UPSes can work in parallel with the Powerware Hot Sync technology
- Flexible installation provided by cable entrance spots at the top and bottom of the UPS
- Advanced Battery Management technology preserves batteries by charging them only when necessary
- Small enough to fit in tight spaces such as back or side walls
- The transformer-free design provides up to 99% efficiency

**Best For:** Midsized data centers in the public sector.

## Eaton 9395 UPS



Eaton's 9395 UPS is designed to be efficient in a compact footprint. With customizable options, the 9395 is engineered to meet any system design and provide backup power and scalable battery runtimes for large data centers. The 9395 was recently SMaRT (Sustainable Materials Rating Technology)-Gold certified, which can contribute to points in two LEED credit categories for buildings and projects seeking certification.

- Provides double conversion and a transformer-free design
- Multiple UPSes can work in parallel using Powerware Hot Sync technology
- Inherent redundancy configurations are available
- Batteries are preserved through Advanced Battery Management technology
- Prewired configurations offer quick installation and reduced costs

**Best For:** Data center projects or facilities seeking LEED certification.

## Product

## GE GT Series



## Description

The transformerless GT Series (5 to 10kVA) offers a true online VFI (voltage and frequency independent), double-conversion range, and it comes in a tower and rack convertible design. The GT Series can be expanded to create up to 30kVA in a parallel system. Batteries are hot-swappable, and extended runtimes are available with matching battery cabinets. The GT Series can also handle cold starts and programmable load shutdowns with a remote power switch for separate sites. Multiple PDU options and backfeed protection are also available.

- Single-phase output voltages of 120/208V
- 80 to 138V input voltage window
- Frequency conversion 60/50Hz
- SNMP can be added for network communication
- Prevents deep battery discharge at low loads

**Best For:** Data centers that need a flexible UPS option.

## GE LP33 Series



The Digital Energy LP33 Series UPS (10 to 100kVA) offers a variety of power protection features for mission-critical applications, including GE's Redundant Parallel Architecture technology, which parallels up to four units. Operating in double-conversion mode, the LP33 Series offers true online VFI (voltage and frequency independent) operation and high-frequency Pulse Width Modulation IGBT digital control techniques for a quicker transient response and lower output distortion. Additionally, its transformerless design makes it compact, lightweight, and quiet.

- Greater than 0.98 input power factor and less than 8% input THD distortion
- Up to 98% operating efficiency in ECO mode
- 54 to 66Hz input frequency and 208V
- LAN, modem, SNMP, RS-232, Modbus RTU, programmable alarm contacts, and TCP/IP connections provide for remote monitoring and management
- SBM (Superior Battery Management) technology helps to preserve battery life

**Best For:** Companies searching for a transformerless and energy-efficient three-phase solution.

## GE SG Series



The 10 to 750kVA three-phase SG Series from GE uses its Redundant Parallel Architecture to parallel up to eight units to achieve N+1 redundancy, and it is managed through a peer-to-peer configuration with redundancy in critical aspects of the system. With each SG Series UPS operating in double-conversion mode, your mission-critical programs will always have the power they need because of true continuous online VFI (voltage and frequency independent) operation. The SG Series also offers front access, a fifth and 11th internal harmonic filter, and fused surge protection.

- 480V, 60Hz
- The inverter is modulated through Space Vector Modulation, an advanced Pulse Width Modulation digital control technique to maximize efficiency and battery runtime
- Intelligent Energy Management cuts operating costs and increases operating efficiency
- Up to 94.4% load efficiency in double-conversion mode

**Best For:** Organizations looking for an energy-efficient three-phase solution.

## PRODUCT SPOTLIGHT

## PHYSICAL INFRASTRUCTURE

Processor's Product Spotlight highlights options available in key data center product categories, providing product information side-by-side for easy comparison.

Compiled by Tessa Warner Breneman

## Emerson Network Power Liebert GXT3 UPS



The Liebert online GXT3 UPS from Emerson Network Power offers a compact design that keeps your critical loads running with up to six battery-backed outlets. Engineered for PCs, network workstations, servers, network closets, large network peripherals, and VoIP, the GXT3 supports both rack and tower configurations, and it preserves batteries through its broad input voltage window. Additionally, the GXT3 automatically discovers and meets both 60Hz and 50Hz line input frequencies and sends out advanced UPS status alerts through both automatic and manual battery tests.

- Just 2U high and is available in VA ratings from 500 to 3,000 in either 120V or 230V models
- Available in either rack or tower configurations
- Up to six battery-backed outlets and up to eight minutes of battery backup time at full load
- SNMP and Web-based management options
- Input circuit breakers protect against and help recover from overloads

**Best For:** Companies looking for a compact UPS.

**Price:** Starts at \$584

## Emerson Network Power Liebert NXL



The Liebert NXL is engineered to power medium-sized to large data centers that handle applications with high power requirements. With the ability to handle virtually any input condition, the NXL can support backup generators and a broad range of input distortion. The NXL also offers computer-level output to critical loads. Rather than de-rate the output or concede availability, the NXL can operate at 100% despite situations such as clogged air filters or high ambient temperature, and it maintains full regulated power in overload conditions. Top and bottom cable entry is available.

- Available in single-module and multimodule configurations with capacities of 250kVA, 300kVA, and 400 kVA, as well as 740kVA at 480V
- 1+N and N+1 configurations are available on multimodule 750kVA models
- Easy installation thanks to internal cabinet cable wiring and ship-ahead I/O section
- ActiveStar Digital Signal Processor management eliminates potentiometers
- Up to 94% operating efficiency

**Best For:** Medium-sized to large data centers that handle applications with high power requirements.

**Price:** Starts at \$90,000



Powering Business Worldwide



## Tripp Lite SMART3000RMXL2U



Supporting loads up to 2,880 watts, the 3kVA 120V SMART3000RMXL2U UPS is designed for both rack-mounts and towers and has a 0.96 power factor. Additionally, it provides two separate switched outlets for remote reboot and load-shedding applications. The UPS also supports comprehensive reporting of equipment load levels, self-test data, and utility power conditions. It also offers a notification alarm for on-battery, low-battery, and overload conditions.

- NEMA L5-30P input plug and nine UPS-supported outlets
- Hot-swappable battery and electronics modules
- 96% efficiency rating
- Includes PowerAlert auto-shutdown and management software for monitoring, reporting, and logging of all site and UPS operational conditions
- HID-compliant USB interface supports integrated power management and auto shutdown features of Windows and Mac OS X

**Best For:** Server, networking, and telecommunications organizations looking for rackmount, wallmount, or tower solutions.

**Price:** \$1,149

## Tripp Lite SmartOnline SU30K3/3 30kVA



The Tripp Lite SU30K3/3 30kVA is a three-phase true online UPS that offers a compact and lightweight design. Boasting output power with less than 3% total harmonic distortion, the SU30K3/3 utilizes IGBT inverter technology and hardwire input and output connections to support a wide range of PDU-style power connections.

- Large-capacity 30,000VA/24,000-watt UPS
- 120/208VAC, three-phase, four-wire (plus ground), wye input and output
- Wide input voltage correction range (88-144/166-250VAC)
- 3:1 crest factor for a range of equipment compatibility
- Both a manual bypass switch and an automatic bypass function

**Best For:** Enterprises looking for a compact, large-capacity three-phase solution.

**Price:** \$16,700



# Data Center Fire Suppression

## Product

## Ansul Sapphire Fire Suppression System



## Description

Ansul's Sapphire Fire Suppression System is a total flooding system that uses Novec 1230 fire protection fluid. Novec fluid is environmentally friendly, contains no ozone-depleting materials, and has a global warming potential of 1.0 and an atmospheric lifetime of only five days.

- Total flooding effective on class A, B, and C fires
- Suppression fluid is released through a network of pipes and nozzles
- Clean agent is appropriate for protecting high-value assets

**Best For:** Data processing centers, tape storage, and telecommunications centers.

## Fike ECARO-25



Fike's ECARO-25 pairs DuPont's FE-25 fire extinguishing agent with Fike's rupture-disc valve to offer greater agent coverage and distribution. Unlike sprinkler systems, the FE-25 agent is safe for sensitive computer equipment. The agent also won't harm facility workers and is environmentally friendly, with zero ozone depletion potential.

- Colorless, odorless, and leaves no residue, requiring no cleanup
- Minimizes business downtime due to fire
- Can be used in occupied and unoccupied spaces
- Electrically nonconductive

**Best For:** IT systems, telecommunications centers, control rooms, computer rooms, and media storage.

## Fireaway Stat-X Electrically Operated Units



Stat-X Electrically Operated Units from Fireaway produce an ultra-fine potassium-based aerosol that is safe for electronic equipment or magnetic media. Electrically operated units can be manually or automatically activated and, unlike gaseous systems, do not require pressure vessels or piping. In addition, electrically operated units are lighter and take up less space than other extinguishing agents.

- Suitable for enclosed facilities and local applications
- Not harmful to personnel
- Can be quickly vented after discharge for easy post-fire cleanup
- Environmentally friendly with zero ozone depletion potential

**Best For:** Critical applications across a range of industries, including data processing facilities, process control rooms, and telecommunications facilities.

## Product

## FireXonline OnGard



## Description

The OnGard fire protection system from FireXonline consists primarily of a tank filled with fire-suppressing agent. A tube connected to the tank delivers the suppression agent directly to a potential fire site, such as the inside of a rack enclosure. When a fire is detected, the tube will rupture and release the agent into the area. Extinguishing a fire at the source may eliminate the need to discharge a computer room's larger suppression system.

- Penetrates hard-to-reach areas
- Detects and extinguishes fires in less than 10 seconds
- Reduces downtime caused by data center fire

**Best For:** Data centers, computer rooms, and communications facilities.

## Periphman Aero-K



Periphman's Aero-K fire suppression system uses potassium-based aerosol generators that can extinguish a fire in seconds. The aerosol won't harm electronics or electronic media such as tapes and disks or the health of facility personnel. Aero-K aerosol generators are compact and easy to install and feature multiple smoke detectors that limit the chance of accidental discharge.

- Won't corrode steel, plastic, nickel, brass, zinc, copper, aluminum, or other commonly used composites
- Leaves little residue after venting
- Ecologically friendly with no agents that can harm the ozone layer
- Control panel with battery backup in case of power outage

**Best For:** Information technology and telecommunications industries.

## Victaulic Vortex



The Victaulic Vortex fire suppression system is the world's first-ever hybrid (water and inert gas) fire extinguishing system that extinguishes fires without the use of any toxic chemicals by deploying a high-velocity, low-pressure mixture of nitrogen and water. The system delivers as little as one gallon of water per emitter per minute, and each emitter can protect up to 2,500 cubic feet. The system is compatible with facility fire protection systems to provide greater design flexibility, and it is recharged rapidly allowing for a return to working conditions almost immediately after a fire.

- Nearly zero wetting of protected areas
- No ozone depleting or greenhouse gas emissions
- Quick system recharge to support minimal facility downtime
- Protects people and assets

**Best For:** Protection of enclosed cabinets and isolated equipment within protected spaces.

Processor's Product Spotlight highlights options available in key data center product categories, providing product information side-by-side for easy comparison.

Compiled by Kris Glaser Brambila

## Fireaway Stat-X Thermal Units



Fireaway's Stat-X Thermal Units emit an ultra-fine potassium-based aerosol that won't harm sensitive electronic equipment or magnetic media. Thermally operated units integrate a thermal detector that automatically activates the unit in a fire situation. Thermal units can also be manually activated. Thermally operated units have a low installation cost, are virtually maintenance-free, and have a shelf life of more than 10 years.

- Easy installation that doesn't require pressure vessels, piping, or installation manpower
- Occupies less space than other extinguishing agents
- Environmentally friendly with zero ozone depletion potential
- Favorably reviewed by EPA for SNAP listing

**Best For:** Electronic cabinets, data processing equipment, and printing equipment.

## Xtralis VESDA ECO



Xtralis has extended its market-leading VESDA very early warning ASD (aspirating smoke detection) system to include reliable gas detection and environmental monitoring. VESDA ECO from Xtralis uses new or existing VESDA ASD pipe networks to actively sample air for the presence of smoke and up to nine hazardous and/or combustible gases. Integration with other building systems delivers real-time situational awareness and intelligent emergency response.

- Leverages existing VESDA ASD pipe networks to cost effectively detect both smoke and gas
- Provides detection of multiple gases through simple expansion without major construction or retrofitting
- Reduces energy consumption and costs through demand-controlled ventilation
- Works in harsh environments
- Integrates easily with building systems such as FACP, PLC, HVAC, and BMS

**Best For:** Battery-charging rooms, clean rooms, underground utility tunnels, and other critical areas.

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## Security Is Top Concern For SIEM Users

According to a pair of surveys from RSA, the security division of EMC, SMEs' interest in log management has shifted from being all about compliance to being about enhancing security. The SANS Institute conducted one of the studies, which found that 80% of organizations that use log management ranked security as a more critical application than regulatory compliance. RSA's own survey seconds the notion that security is a primary concern for SIEM (security information and event management) users in small to midsized enterprises. According to Sam Curry, chief technology officer for marketing at RSA, "In essence, SMEs are seeing the need to benefit from all a good SIEM platform has to offer, which includes stronger detection and prevention capabilities."

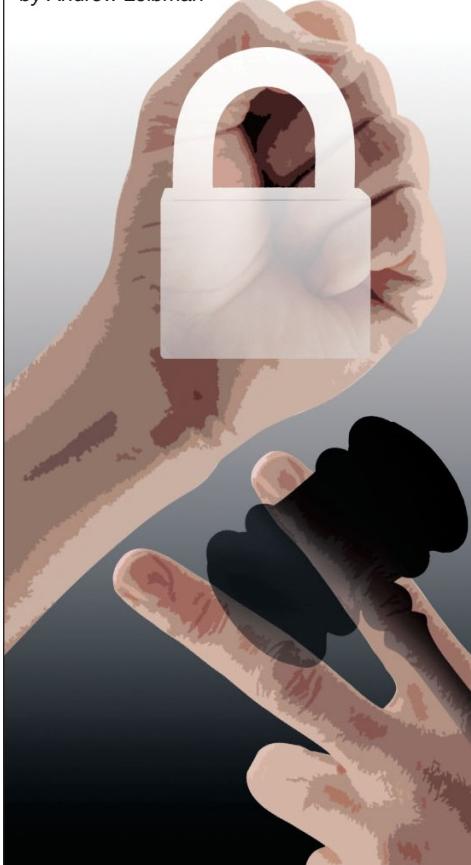
Curry explains how SIEM can make a real difference for SMEs: "A good SIEM platform can make use of [an intrusion detection system and vulnerability assessment tool] by correlating IDS logs with vulnerabilities that the scanner has found," he says. "Therefore, [IT managers] only get alerted to a real attack on a vulnerable server, which means they can work on creating more information about their risk landscape and spend more time on actively shutting down risks and threats."

### Security Trumps Compliance

In the RSA survey, 89% of current SIEM users said that security operations functions are the primary application, whereas 54% said compliance is their primary SIEM application. But all this shifting attention doesn't mean compliance is going away as a priority for SMEs. "Regulations exist to change behaviors and encourage the right ones," Curry says. "They are not waning so much as morphing to encourage better practices that, naturally, are more aligned with the business."

The RSA survey also revealed that 66% of SIEM users at SMEs said real-time monitoring is a must-have feature when considering a SIEM vendor, and 75% agreed that real-time monitoring is a vital necessity. "The value of faster and more accurate response times is obvious," Curry says, but the less obvious benefits are "less time dealing with false positives, better ability to prevent [attacks], and more focus on what matters as the signal is pulled from the noise . . . and more time to sit quietly and enjoy the hum of the machines in the data center without worrying about the constant alarms."

by Andrew Leibman



# Troubleshoot Cabling Problems

## Untangle The Rats' Nest

by Sixto Ortiz Jr.

**I**F THE DATA CENTER is an organism, the cabling used to connect all of the components is its circulatory system. This infrastructure element is particularly important, not just because cabling is the conduit for data and power, but because sloppy cabling practices can affect heating and cooling performance in the data center.

Troubleshooting cabling issues can be particularly vexing, simply because there is so much cabling snaking around the data center. Just as with everything else in the data center, a logical and well-thought-out approach to arranging and organizing cabling will ease troubleshooting and save hours of frustrating, tedious labor.

### Label It

A particularly common issue when troubleshooting a cabling problem is simply figuring out exactly where cables lead and how they are connected at the patch panel. Unplugging the wrong cable can make a problem much worse; thus, labeling is a critical component of successful troubleshooting.

Christina Hansen, product specialist at CableOrganizer.com, says properly labeling both patch panels and network cables can go a long way toward saving both time and energy. Hansen says proper labeling doesn't take much, just adhesive-backed labels for patch panels and heat-shrink sleeves for patch cords. The rationale for patch cords, she adds, is that they surround the cable and won't just peel away and fall off.

Ken Koty, a sales engineer with PDU Cables (www.pducables.com), says administrators should use accurate and legible labeling on each end of underfloor power cables. This approach, he adds, allows for easy identification and tracking of all power feeds

### BONUS TIPS

■ **Look for simple fixes.** Eric Marcus, founder of Marcus Networking (www.marcusnt.com), says administrators should look for simple things when troubleshooting. For example, he says, personnel should look at the jack itself to make sure there is no dust or dirt in it. Also, cables should not be placed near electrical wiring or on top of fluorescent lighting because this can cause interference.

■ **Ditch the zip ties.** Vladimir Pivtorak, infrastructure services manager at Quest Media (www.questsys.com), says zip ties that are tied too tightly can cause a signal to bounce inside the cable where the straps are located, decreasing cable performance. Instead of ties, he says, administrators should use Velcro.

### SIX QUICK TIPS

NETWORKING & VPN

under the raised floor. Also, Koty says, administrators should color-code the conductors of servers requiring three-phase power feeds such that each conductor is connected to the proper phase in the PDU/RPP.

Adam Schwam, CEO of Sandwire (www.sandwire.com), says all jacks and wires need to be labeled so they can be easily tied to their counterparts on the patch panel. This approach, he adds, can prevent the accidental disconnection of the wrong cable or jack.

### Manage Your Cords

One of the best ways to save man-hours and frustration when troubleshooting cabling issues in the data center, Hansen says, is to keep patch cords organized so that administrators can find what is needed at a glance instead of digging through a thick curtain of tangled patch cords. This organizing task, though it might seem labor-intensive at first, can pay dividends whenever the inevitable cabling problems occur.

PDU Cables' Koty recommends the use of factory-fabricated underfloor power cable assemblies to maintain cleanliness in the data center and protect sensitive equipment from metal shavings and/or dirt.

### Rely On Quality

Sometimes, the root cause of a cabling issue can be traced to substandard installation. This can be especially frustrating because shoddy installation across the entire data center may mean a redo of infrastructure tasks that should be right in the first place.

JR Rodrigues, president of NetCablesPlus.com, says administrators should be suspicious of cables that have been manually cut and crimped in the data center. Rodrigues says the bulk of complaints logged by customers have hand-cramped cables at the root. To avoid this issue, he says, administrators should choose factory-manufactured and -tested patch cables that are much more reliable. Looking for "homemade" cables first, no matter what the symptoms of the cabling problem are, can save a lot of debugging time, he adds.

Saving budget dollars by going cheap when it comes to cabling may seem like an easy proposition for administrators charged with cutting data center costs. However, this approach may wind up causing greater expenses and troubleshooting pains. Eric Marcus, founder of Marcus Networking (www.marcusnt.com), says administrators should shy away from purchasing cheap cabling. Cabling is the backbone of the network and one of the most important components to ensure a network runs properly, Marcus says.

### Embrace Proper Design

Like any other data center infrastructure element, well-thought-out cabling design can alleviate troubleshooting efforts and

help immensely when issues crop up. But, says Vladimir Pivtorak, infrastructure services manager at Quest Media (www.questsys.com), most data center cabling problems result from poor design.

For example, fiber and copper should be separated so cables are not exposed and so they feed to their appropriate switch, Pivtorak says. If the switch is removed, the cable is also removed so there are no "stray" unused cables, and there is no need to re-dress cables inside the tray.

Another element of good cabling design, Pivtorak says, is the use of cable trays to manage cables and greatly decrease the time needed for troubleshooting because everything is clearly laid out and labeled. Trays should be located on or above the cabinet or rack for easy access and management. And, he adds, administrators should avoid

### Most Practical Tip:

## Use High-Quality Receptacles

Ken Koty, a sales engineer with PDU Cables (www.pducables.com), recommends that administrators install power cable with high-quality receptacles. Inferior devices can cause heat buildup that can overdraw amperage and trip the circuit breaker. A failing circuit breaker could cause a fire.

Prior to energizing power whips, Koty says, it is important to make sure the completed assembly has been Hi-Pot tested from phase to phase and phase to ground. This ensures there are no shorts in the conductors, which can fail upon energizing or in the future if cables are moved under the floor.

### Best Tip:

## Simplify Networking

Sunil Ahluwalia, product line manager at Intel's LAN Access Division, says administrators can simplify cabling in the data center by using 10 Gigabit Ethernet to consolidate traffic in the data center. Ahluwalia says typical virtualized servers in the data center use eight to 10 GbE LAN ports and two dedicated SAN ports. This approach, Ahluwalia says, leads to excessive complexity, high equipment costs, and increased energy usage.

Instead, administrators should seek to simplify cabling by consolidating traffic from multiple Gigabit Ethernet connections onto a single 10GbE adapter, which will significantly reduce cable and infrastructure complexity and TCO. Also, he adds, moving to 10GbE can lead to lower energy use and simplify network connectivity because 10GbE can carry storage traffic, including both iSCSI and FCoE. By using a trusted Ethernet infrastructure for both LAN and SAN traffic, adds Ahluwalia, administrators can eliminate expensive storage-specific adapters.

routing trays under the raised floor because this causes interference with the air circulation and adds accessibility difficulties.

Jesse Hillman, CIO of Celergy Networks, says there are many data centers where raised floors are full of old, dead mainframe cabling or CAT 1/3 cabling that was long ago abandoned. This environment, he adds, creates multiple issues, such as the obstruction of airflow under the floor and increased costs due to the complexity of troubleshooting the snake pit of cables living under the raised floor. □



## Copper Nanowire Process Could Allow Foldable Displays

A team of scientists at Duke University has discovered a process for making large quantities of copper nanowires, which can be used as conductors in computer displays, solar panels, and even foldable computers.

Currently, flat-screen TVs and computer displays produce images using a series of electronic pixels that are connected by a transparent, conductive layer of ITO (indium tin oxide). ITO is also used as an electrode in thin-film solar arrays. However, ITO is inflexible and increasingly expensive, and its production process is inefficient. Until now, there were few options for replacing ITO. Silver nanowires work well as transparent conductors, but they are also expensive. Additionally, researchers have failed to improve the conductivity of carbon nanotubes, another possible alternative.



Benjamin Wiley, an assistant professor of chemistry at Duke who led the team that discovered the new process, says that copper nanowires, in addition to being conductive and transparent, would be 100 times cheaper because copper is much more abundant than silver or indium. Wiley's team created the copper nanowires using a mechanism of crystal growth. They added certain chemicals to a water-based solution to make copper crystallize into "seeds," which then self-assembled into tiny nanowires. Wiley says the copper nanowires have a much more efficient production process than ITO.

"ITO films are very expensive and not flexible, and the material must be deposited in the vapor phase in a rather slow, inefficient process (only 30% of the ITO ends up on the substrate)," Wiley says. "Since copper nanowires can be coated from liquid, they enable much higher film production rates, which, in addition to the low cost of copper, will dramatically reduce the cost of transparent conducting materials. This in turn will reduce the cost of flexible displays, solar cells, and low-emissivity window coatings."

### Working Out The Kinks In Nanowires

Wiley says there are some problems with copper nanowires that have to be fixed before they can be mass produced. "Copper wires oxidize more easily than ITO or silver and are copper-colored instead of gray, [which] can be a negative for displays," he says. "The fact that they are 100 times cheaper should outweigh these factors in many applications."

Wiley says it will take about a year to fix the oxidizing problems. Commercial products using copper nanowires, maybe even foldable tablet computers, should appear soon after that.

"I think the fact that they are foldable can be a big advantage in many applications," he says. "Just think of folding and unfolding a display like a piece of paper."

by Kyle Harpster

# Cabling Considerations For Video

## Bandwidth-Heavy Video Apps Push Enterprises To Rethink Cabling Strategies

by Christian Perry

• • •

**THE NEED TO** support surveillance, high-definition video, unified communications, and similar technologies in the enterprise is placing an emphasis on cabling. Although older cabling—assuming it's in good condition—is perfectly capable of handling today's basic data-related tasks, hefty video-related tasks can test the limits of legacy cabling and lead enterprises to consider upgrades.

### Upgrade Or Not?

According to Ed Gastle, product line manager at JDSU ([www.jdsu.com](http://www.jdsu.com)), enterprises looking to transition from 10/100Mbps Ethernet to Gigabit Ethernet (1000Base-T) could need upgrades in horizontal, or workspace, cabling, while upgrades in data centers could be required as speeds move from Gigabit to 10Gb. He adds that new cabling may be required to support increased bandwidth, but it might also be required if the previous cabling was improperly installed (for example, in cases where 10/100 Ethernet cables have only two pairs terminated, because Gigabit Ethernet requires all four pairs). However, he warns against wholesale changes simply based on the notion of increased bandwidth.

"Many enterprises make the mistake of 'forklift' upgrading their existing plant instead of testing it to see if it will support the higher speeds. For horizontal cabling, even legacy Category 5 cabling can support Gigabit Ethernet. The best approach for horizontal cabling is to speed-test the cable to see if it supports Gigabit Ethernet," Gastle says.

Especially in organizations where video streaming is a daily priority, CAT 6 cabling is seeing increased adoption rates, thanks to its ability to not only easily handle Gigabit Ethernet speeds but also 10GbE speeds. Mike Jude, program manager of consumer communications services for Stratecast, a division of Frost & Sullivan, notes that CAT 6 cabling is a wise choice if an organization wants to

move to completely digital transmissions across the network, because it can handle both the content and speed (whereas coaxial cable, for example, can carry high-bandwidth analog video).

### Key Points

- Upgrading cabling to support increased video bandwidth might seem inevitable, but it's wise to first test existing cabling to see if it can support new video applications.
- Although Category 6 cabling is seeing increased adoption rates, enterprises might be surprised to learn that their existing Category 5 cabling can accommodate Gigabit speeds.
- The ability of cabling to support high-definition video and other modern video platforms depends on the health and performance of the entire network, so it's critical to keep all network aspects in mind when considering support for video.

However, for data centers that decide to move to 10GbE and upgrade their cabling in the process, copper-based CAT 6 is no slam-dunk decision. Although copper

**"Beyond the cabling, it is important to ensure all layers of the network are properly configured and tested, starting with the cabling and moving up through the layers...."**

- JDSU's Ed Gastle

cabling is generally less expensive and easier to install, fiber-based cabling can handle more bandwidth, can travel farther distances, and is less likely to suffer from interference. Both fiber and the newer copper standards require personnel who are trained to handle the technologies, though

### Know The Task Ahead

Think you're prepared to replace your cabling? Think again, unless you've already been through the process in the past. Mike Jude, program manager of consumer communications services for Stratecast, a division of Frost & Sullivan, says that recabling is an "extremely painful" process that requires a boatload of labor to remove the old cable and insert the new—even when there are existing cable races.

"Enterprises need to determine whether they actually need new cabling throughout their campus. In many cases, leaving existing CAT 5 and coax in place will probably support most of what they want to do. When I was in the business, we would recommend that companies going through recabling place some empty races with pull cords to facilitate the next upgrade. Ultimately, I suspect that most inside cabling will go optical—having empty races and the means to pull cable through them will save a lot on future upgrades," he says.

many data centers ultimately choose a mix of both copper and fiber cabling.

### Consider The Big Picture

Although video is no doubt the spur behind a new generation of high-powered hardware and the infrastructure needed to support it, Jude says that large amounts of video don't quite require massive amounts of bandwidth. Even though existing Ethernet rates can support video without moving into the Gigabit range, he notes that regular use of high-definition video will indeed require an upgrade if you're still using older cabling. On the other hand, if you're considering upgrading your cabling simply to support Skype or Google-level video, it's best to wait until the need is more acute, he says.

Of course, merely replacing cable won't magically provide your enterprise with the ability to support big-bandwidth video, because cabling doesn't directly support video. Gastle says that although cabling supports a specific Ethernet protocol (such as 1000Base-T or 1000Base-SX), it's the IP network and everything under it (including cable) that supports video. As such, he recommends that organizations target more than just the cabling itself when considering support for video.

**"Beyond the cabling, it is important to ensure all layers of the network are properly configured and tested, starting with the cabling and moving up through the layers—Ethernet, IP, and beyond. Testing individual segments of the network is worthwhile, but ultimately, it is the end users' quality of experience that matters. The entire system between the end user and video source must be configured to support video and then tested to ensure the QoE requirements are met," Gastle says.**

Because video, and particularly compressed video traveling over IP networks, is susceptible to packet loss, delay, and jitter, it's critical to test the network from end to end to discover potential weak links. In the case of cabling, Gastle says that issues can cause packet loss, so cabling (whether it's old or new, or copper or fiber) must be tested for its ability to support the Ethernet signal running over it. These tests can help organizations determine whether upgrades are necessary. **P**

# Software Piracy & Licensing: Is Your Business In Compliance?

Save Your Company A World Of Hurt

by Brian Hodge

• • •

ACCORDING TO a new software study by the BSA (Business Software Alliance), piracy rates in the United States are the world's lowest, at 20%. That looks great at first glance, but it's deceptive: Considering the United States has the world's largest economy, that's still a huge number of instances of piracy. Making sure

## Key Points

- Software piracy happens not only from willful disregard but also through carelessness and ignorance of licensing stipulations.
- Auditing tools will enable IT to track software installs and licenses, but potential infractions should be investigated carefully, because erroneous red flags do occur.
- Establishing clear policies, locking down PCs, and making sure employees can quickly get the software they need are ways to minimize future piracy.

the enterprise has legal, licensed copies of all software applications is a task that data center managers need to tackle head-on, because piracy's consequences can be dire.

Even if piracy is never found out beyond your walls, there's still significant risk, as software acquired from shady sources may also come with embedded malware, which could damage the company network or compromise its security.

If piracy is discovered externally—through outside audit, by report from a disgruntled employee, or other means—things only get worse. Worst-case scenarios may include legal headaches and stiff fines for copyright infringement or a full audit by the BSA, "which can be an extremely unpleasant and expensive process," says Luther Martin, chief security architect at Voltage Security ([www.voltage.com](http://www.voltage.com)).

The harm may extend far beyond legal penalties. "[Piracy] also has the potential for significant reputation damage to the company's brand, being known as a firm that is not ethical in the way it conducts business," says Leigh Haig, independent IT security consultant.

## How Pirated Software Gets In

Instances of piracy occur in the workplace through a variety of means. Understanding their underlying circumstances and misunderstandings is the first step to thwarting them.

Obviously, there's willful disregard of the law by people who know better—for instance, a manager who resorts to pirated software to stretch the department budget. Impatience by employees who want the right tools for their jobs can also lead to cutting corners.

"Given the choice between using unlicensed software right now and waiting for a purchase order to be processed to get fully licensed software, many people will take the easier, if not legal, option," Martin says.

Piracy can also be introduced through the carelessness of well-meaning employees, such as installing a program in excess of its number of authorized licenses. And, workers who take home a company notebook PC may install unlicensed software for personal use, which could nevertheless implicate the company in the infraction.

Another possibility is an incomplete understanding of open-source and free products. "Some of these will have specific clauses that allow free private use but not for commercial," Haig says. "This could very easily lead to an organization believing the product they are using is legitimate, when in fact it may be breaching acceptable use of the product."

## Pirate Hunting

There are many commercial asset inventory tools that IT can use to conduct internal audits and manage software licensing within a company. These gather details on what applications are installed on company PCs and then compile a central database that can be used to make sure licensed products remain within the permissible

## The International Picture

As the Business Software Alliance study on piracy shows, U.S. software compliance breaks down to 80% licensed and 20% unauthorized. It's usually a factor of employee behavior rather than business policy.

"In other countries, that's not the case," says Voltage Security's Luther Martin ([www.voltage.com](http://www.voltage.com)). "In China, for example, it's almost the exact opposite, with only about 20% of software being licensed, and there, it's more often caused by businesses than by individuals."

So if you're dealing with international branch offices, you may encounter a very different attitude to piracy, even cultural acceptance, that requires stricter control.

number of installations and look for non-licensed products.

Although discrepancies certainly warrant investigation, that doesn't necessarily mean there's a violation, and the results may not even be what they appear at face value.

"The two biggest problems [with license tracking software] are apparently the inability to recognize bundled software—Microsoft Office vs. separate copies of Word, Excel, etc.—and the inability to distinguish between demo versions of software and the fully functional version," Martin says. "I've also heard horror stories about how things like 'Microsoft Word,' 'Word,' and 'Word for Windows' ended up being counted separately by one of these products."

When unauthorized software is confirmed, it should either be deleted or a license obtained to bring it into compliance.

The occasion can provide a good opportunity to educate the employee in question, and possibly the entire department, if needed, although not with a guilty-until-proven-innocent attitude.

"Workers should be given the benefit of the doubt for the first instance of such a situation," Haig says. "Heavy-handed tactics immediately will create a rift that can serve no possible good."

## Prevention Is Better Than A Cure

Minimizing future incidents of piracy starts with a clear, effectively communicated policy addressing the standard employees are expected to follow regarding software, including the risks of pirated applications and the penalties for infractions.

IT should also encourage management to make it easy and expedient for employees to obtain legal copies of software they need to do their jobs, even when it appears to be a nonstandard product.

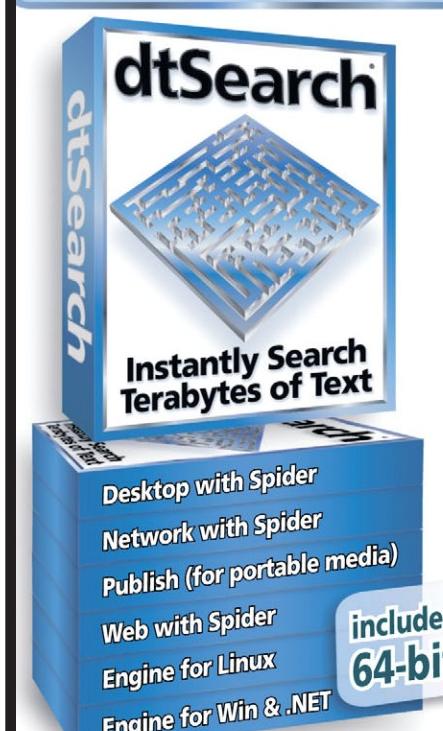
The most effective measure would be to lock down equipment so end users can't install software on their own and require

**There are many commercial asset inventory tools that IT can use to conduct internal audits and manage software licensing within a company.**

installations to be handled by IT. The obvious downside is increased strain on IT and reduced employee flexibility, and it should only be considered as the nuclear option in an environment with repeated violations.

Given the repercussions of software piracy, stopping an instance in-house is like dodging a bullet. It's far better, though, if the bullet never gets chambered in the first place. □

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## FEATURE PACKAGE

**Windows 7**

We'll catch you up to date with the latest regarding Windows 7, including tips for getting it to work with existing systems and how to avoid problems others have run into while installing and implementing the OS.

**A Windows 7 Update | 24**

■ Although Microsoft's latest OS has been on the shelf for some time now, industry experts are saying that most small to midsized enterprises will be making the move to Win7 within the next year.

**Sidestep Windows 7 Problems | 26**

■ Windows 7 will have its share of challenges, just like any new OS, but here are some common problems that can be avoided altogether with the right steps.

**A Look At Windows 7 Service Pack 1 | 26**

■ With Windows 7 Service Pack 1, the new features are very minor, but the patch release warrants a well-intentioned rollout.

**Resolve Windows 7 Compatibility Concerns | 28**

■ Enterprises looking for a successful upgrade must carefully consider all compatibility aspects between Win7 and existing systems to ensure a trouble-free migration.

# A Windows 7 Update

**Follow Microsoft's New OS As It Makes Its Way Into The Enterprise**

by Chris A. MacKinnon

THE ENTERPRISE IS just about ready for Windows 7. Or is it the other way around? Although Microsoft's latest OS has been on the shelf for some time now, industry experts are saying that most small to midsized enterprises will be making the move to Win7 within the next year. Right now it's mostly preparation, with enterprises planning for migration and rollout, testing compatibility, building systems, and designing virtualization strategies. Regardless of where your enterprise is in the deployment process, one thing is for certain: Win7 adoption levels are picking up rapidly.

**Adoption Levels**

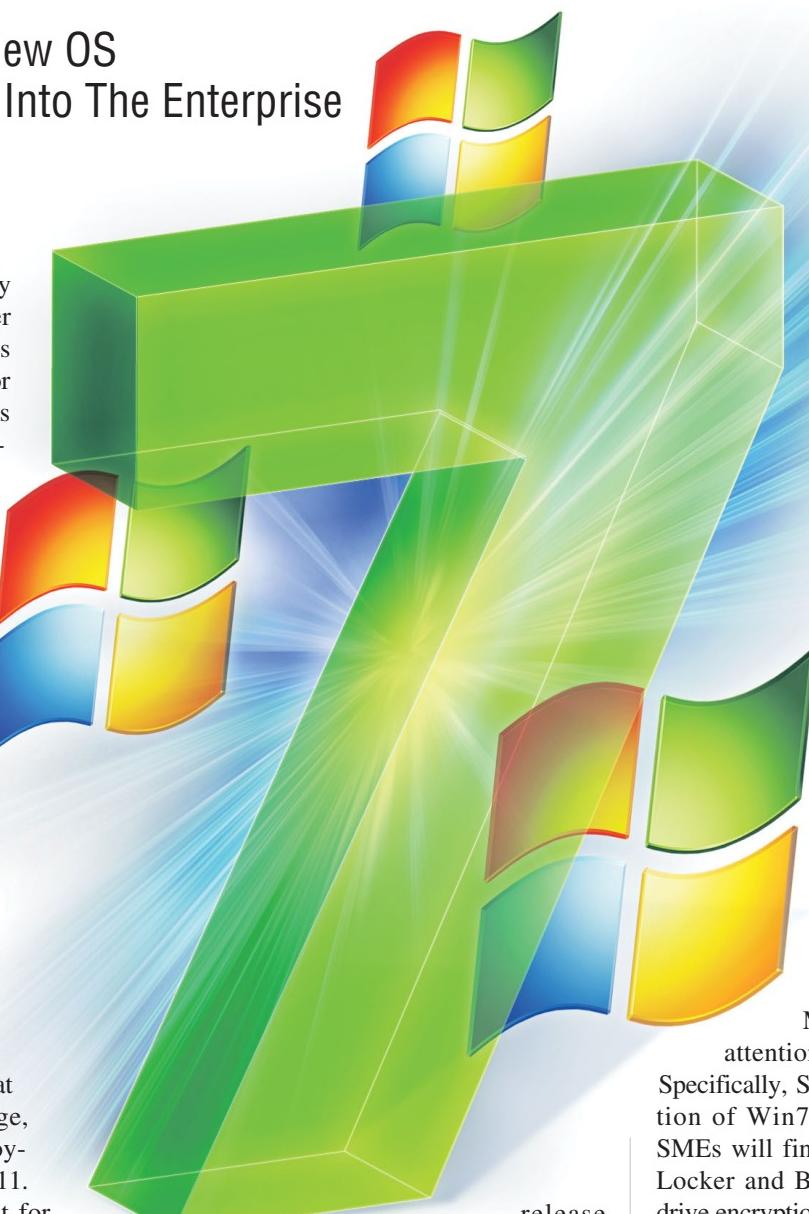
Few enterprises have completed migrations to Win7, according to Michael Silver, research vice president and distinguished analyst with Gartner; however, given that many are in the preparation stage, Silver expects mainstream deployments to start in Q4 2010 or Q1 2011.

Rahul Parmar, research analyst for Info-Tech Research Group, says his firm is seeing Win7 adoption picking up, but it was still under 10% in Info-Tech's last survey early this year. "We do expect almost 80% of enterprises to be on Windows 7 by 2012," Parmar says.

According to Bob Kelly, senior product manager for Dell KACE ([www.kace.com](http://www.kace.com)), most organizations report that they are moving to Win7 within the next year, and most are starting the process of identifying the tools and processes by which they will roll out this upgrade. "With Windows XP support running out, and having skipped Vista, Windows 7 migration is a priority for many companies over the next year," Kelly says. "Aside from support, many organizations

**Adoption Levels**

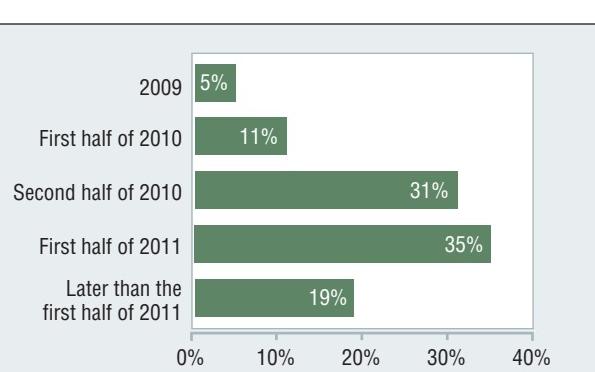
According to two webcasts held by Gartner in early June, participants reported their Windows 7 adoption plans as follows:



release new operating systems to their users by replacing hardware, and many companies delayed such equipment purchases last year, which contributes to the increased interest and demand for Windows 7."

Silver says there are two versions of Win7 that will be deployed by enterprises: Professional and Enterprise. "Most organizations will buy Windows 7 Professional preloaded on their new PCs, and Windows 7 Enterprise is available to organizations with enterprise agreements that include the Windows client or those that purchase software assurance on Windows," he says.

Calvin Hsu, director of product marketing for Citrix's XenDesktop ([www.citrix.com](http://www.citrix.com)),



says Win7 planning is currently hitting its peak of activity, and organizations are preparing their desktop virtualization strategies to aid in the migration. "We are rapidly seeing the emphasis of desktop virtualization deployments shift to Windows 7, and in several cases, IT is using desktop virtualization to offer Windows 7 environments to current XP users," Hsu says. "This enables them to run both desktops side by side, on the same device, in a transition phase."

**Notable Features**

Microsoft is paying more attention to businesses with Win7. Specifically, Silver says the Enterprise edition of Win7 includes several features SMEs will find particularly helpful. "BitLocker and BitLocker to Go (local hard drive encryption software) can replace third-party products," he says. "DirectAccess, another Windows 7 feature, allows Windows 7 PCs to access a corporate network without a VPN. And the Windows 7 MUI (multilingual user interface) allows organizations to build one image for PCs running any language (and works better than it did in Windows XP)."

Silver adds that users of any version of Win7 will get the security improvements that came with Vista, improved repair and troubleshooting facilities, the new user interface, and an OS that will be supported into 2020, as opposed to WinXP, the security and other support for which will end in April 2014.

Parmar points to a search feature in Win7 as one that enterprises will gravitate toward. "Windows 7's new Federated Search functionality provides end users with a consolidated search function on their desktops," Parmar says. "These searches not only allow the user to search throughout their own PC, but also index network drives and portals (such as SharePoint) into the results. We've found at Info-Tech that searching for files, especially on sprawling shared drives, can take up quite a bit of user time, which can ramp up costs for almost any internal initiative or project."

**Implementation**

Silver says planning and testing for Win7 deployments could take a year. "Many organizations want to deploy Windows 7 only as they deploy new PCs, and because many organizations only refresh one-third to one-fifth of their PCs each year, deployment could take three to five years," he says. "Of course, since Microsoft support [for WinXP] will end in 2014, those with longer than a three-year refresh will likely need to budget to replace PCs faster or upgrade existing PCs, as well." Silver says the earlier organizations start deploying new PCs running Win7, the more they can do during regular refresh cycles.

In the virtualization arena, Hsu says educational institutions are on the forefront of using desktop virtualization to implement Win7. "They need to stay on the front edge of technology in order to teach students, but

**Key Points**

- Only a small number of enterprises have completed migrations to Windows 7, although most are currently at some step in the process of planning a deployment.
- Many organizations will deploy Win7 as they deploy new PCs; therefore, depending on an enterprise's refresh cycle, it could take three to five years to complete a Win7 deployment.
- As Win7 migration plans ramp up, many organizations are preparing their desktop virtualization strategies to help in the process.

they cannot advance their desktop hardware at the same pace," he says. Educational institutions are using existing hardware (and even legacy devices) as end points and using desktop virtualization to provide the Win7 experience, Hsu continues.

For his part, Parmar cites application testing as the No. 1 concern of Info-Tech clients during the implementation phase.

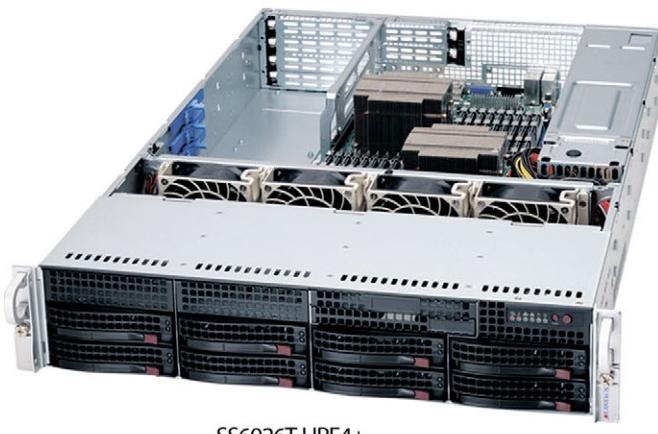
The biggest issues, in Silver's opinion, are older applications that are not supported under Win7. He says a "severely underestimated issue" is the number of applications that require IE6. "IE6 is a nonstandard version of IE, and Microsoft convinced many organizations to write applications specifically for it," Silver explains. "These applications may fail with IE8. Organizations that already moved to IE7 or IE8 on XP have already addressed these applications. Those that have not need to address them now." □



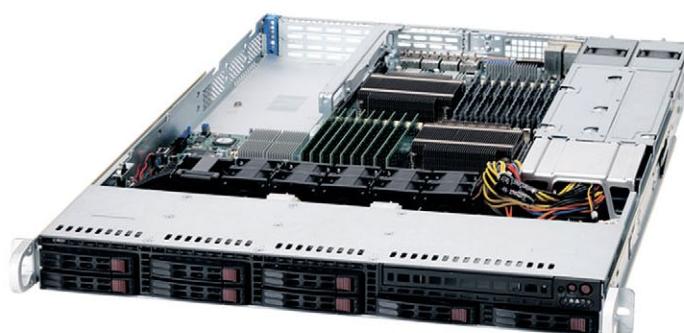
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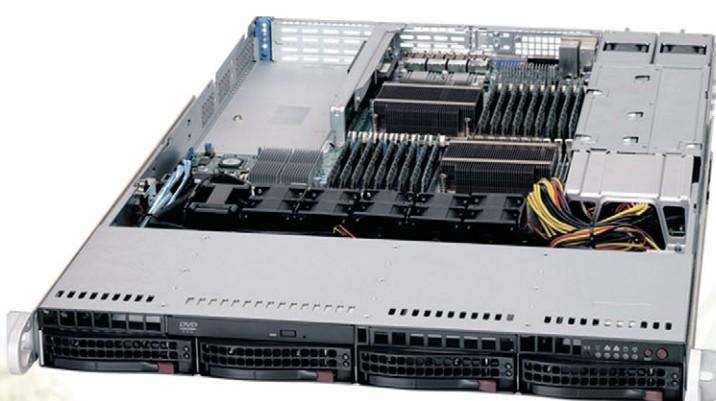
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# Sidestep Windows 7 Problems

**XP Mode Will Help, But Testing Compatibility & Providing Ample Resources Are Key**

by Holly Dolezalek

**GO AHEAD AND SAY IT:** It's time to upgrade to Windows 7. Your enterprise has been running Windows XP or Vista for years, and it's time for a change. Don't be afraid; it's not as bad as it used to be, when the User Account Control ran amok and drivers were not only missing but also unavailable. Win7 will have its share of challenges, just like any new OS, but if your company is in a Windows state of mind, here are some common problems that can be avoided altogether with the right steps.

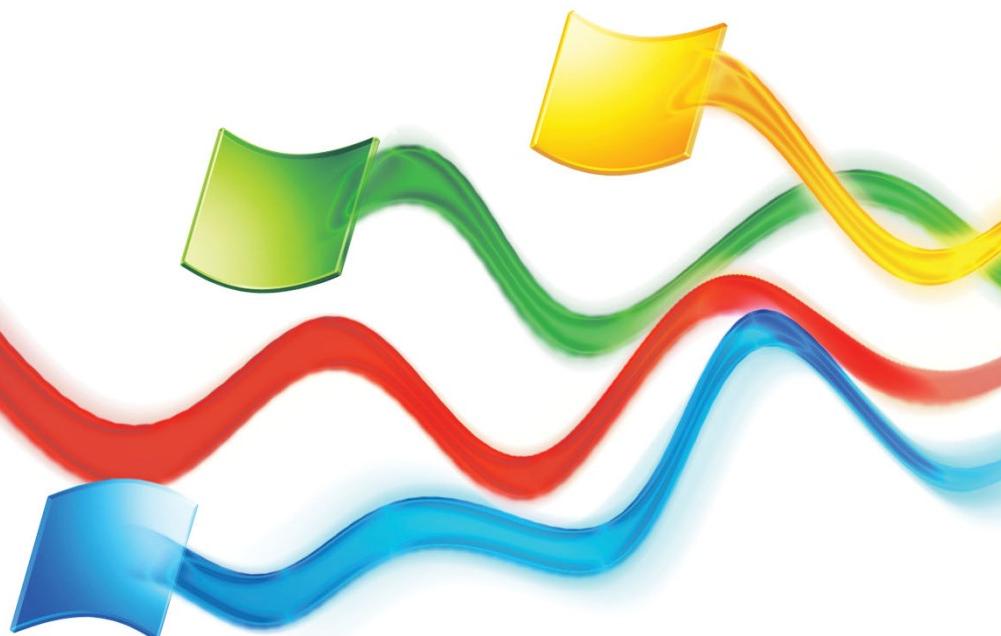
## The Good News

Remember those PC/Mac commercials that made fun of how often Vista asked, "Are you sure you want to do this?" That is a thing of the past, according to experts who have helped with many a Win7 installation. Microsoft learned some lessons from the

### Key Points

- Enterprises that are upgrading from Windows XP will have a lot of adjustments to make and a more demanding learning curve when moving to Windows 7. Chief among those adjustments is the UAC and what it does and doesn't allow.
- The biggest issue with Win7 installations is still application compatibility. Before you install, test all of your enterprise's mission-critical applications to make sure they're compatible with Win7.
- Be prepared to outfit your company PCs with the hardware resources necessary to accommodate a more demanding OS that can do more than your old one could.

Vista debacle. For example, the UAC (User Account Control), which was responsible



for a lot of the difficulties—or at least annoyances—with Vista, has relaxed this time around, and Microsoft redesigned it to be a little more flexible and customizable.

Also, although missing drivers may still be a problem for companies that have older hardware, there haven't been as many problems with drivers this time. And although application compatibility is still potentially a problem for new users, Win7 is more flexible than Vista and offers a Virtual XP mode for applications that simply can't work with Win7.

### Application Compatibility

Still, there are potential problems with Win7, and one of those problems is application compatibility. The potential difficulty stems from several sources, and one of those sources is the UAC. "The UAC locks down machines against viruses, spyware, and other problems," explains Pete Lee,

engagement manager for SWC Technology Partners ([www.swc.com](http://www.swc.com)). "But that added level of security does make it hard for users to maneuver."

For example, although many IT professionals used to design applications to write log files to the Program Files folder, the UAC no longer allows that, nor does it allow access to some areas of the Registry after install. IT managers who don't test before installing are likely to find their applications breaking, and there are only so many ways around it.

"In Windows 7, you can still give yourself admin rights, but even at that level, they're locking out areas that people shouldn't play with for security reasons," says Chip Bates, director of product development for Converter Technology ([www.convertertechnology.com](http://www.convertertechnology.com)). "These are good security features, and most administrators will appreciate them

# A Look At Windows 7 Service Pack 1

**What Does The First Big Update To Windows 7 Mean For SMEs?**

by John Brandon

**PATCH MANAGEMENT** is a skill that many data center managers never thought they would need. After all, for those with formal IT training, there's so much to learn in terms of virtualization strategies, network topologies, and server optimization that managing point releases with minor new feature enhancements and for security purposes is not exactly a higher calling.

Yet, as every hacker knows, the window to a data center often cracks open during a new OS service pack deployment, mostly because there is a new change within IT. With Windows 7, the new features are very minor, but the patch release warrants a well-intentioned rollout.

## Service Pack Concerns

James Wedeking, solutions director at Technisource ([www.technisource.com](http://www.technisource.com)), says service packs have a history of implementing small changes in the OS that can have adverse effects on daily operations at

a company, especially those that deploy the SP too quickly.

"If you do not test SP1 in some sort of offline capacity, you will run into trouble when you roll it out," says Wedeking. "Smaller businesses do not have a tolerance for downtime."

Wedeking says the main issue for SMEs is having the dedicated resources needed to properly test a service pack for an operating system.

"It is whether a company has the bandwidth it needs in terms of planning, reviewing, identifying features, testing, and then rolling it out. Each of those could be a separate project in IT," says Wedeking. "[The service pack] becomes a separate version, and you have to treat it that way, but a small company might not have the experience to deal with it that way. They should have some line of support and resources to make the rollout a success."

Wedeking says there is also a risk with any change in a data center and within IT. Sometimes, a "fix" creates a hole somewhere else. This can be alleviated by a good testing process. Wedeking says using resources such as Microsoft blogs and chat forums can be a great aid for small companies that do not have the dedicated team for dealing with service pack issues.

"Understanding how you will deploy [Win7 SP1] is helpful—you can automate the deployment rather than visiting every workstation," says Wedeking. "You should find ways to roll out to





### XP Mode

As many IT managers already know, Win7 offers the option of running applications that can't play nice with Win7 in virtual WinXP mode. For organizations that go with the 64-bit version and find that their 32- or 16-bit applications just can't be rigged to work, Virtual XP might seem like a godsend, and it is—but it's a short-term godsend, explains Wedeking. "While the concept is outstanding, it is important to know that this is really a full Windows XP operating system running on a more integrated virtual PC platform for Windows 7," he says. "The system is a full system and functions as such, so it must be added to the domain and be included in a patch management program just as if it were a discrete Windows XP system."

Additionally, adding XP Mode to an already complex deployment might offset the convenience of avoiding application incompatibility, in the long term if not in the short. "If time allows, you may be better off solving your application compatibility issues with other options, such as compatibility shims, application virtualization, or just upgrading or replacing the application with a Windows 7-compatible option," Wedeking says.

### Don't Spare The Horses

No matter how you slice it, a Win7 installation is going to demand more from your infrastructure. Win7 chews up more processing power and memory than WinXP, and many shops are going to be upgrading from WinXP rather than Vista. PCs running Win7 need at least a 1GHz processor, a gig of RAM for 32-bit or 2GB for 64-bit, and 16GB of available hard drive space for 32-bit or 20GB for 64-bit.

If your budget is small and you're thinking about making do, you might want to

rethink that decision. "Given the very low cost of replacement hardware that already includes Windows 7, it is generally a big mistake to try to upgrade hardware and especially peripherals (except for printers) that are more than three to five years old," says Phil Lieberman, president of Lieberman Software ([www.liebsoft.com](http://www.liebsoft.com)). "Most users should use the 64-bit version of Windows 7 with a minimum 4GB of memory. We have seen Windows systems with 1GB of memory, and it is simply not enough."

Converter Technology's Bates, who has done a lot of testing in Win7, says that he hasn't tested to see how low it's possible to go with system resources, but he doesn't think the system requirements are overstated. "You might be able to get by with less than Microsoft suggests, but you might see a slowdown and be unhappy with it," he says. □

### Wall Street Reinventing In IT Analytics Assets

A recent survey of U.S. financial professionals indicates that Wall Street's appetite for IT may be relatively ravenous after a long fast. IBM and SIFMA (the Securities Industry and Financial Markets Association) surveyed 240 IT pros in the financial industry. They found that "transformational initiatives" are foremost on Wall Street's mind when it comes to budgeting through next year. In fact, more than 90% plan to spend more on analytics. Driving new investments are analytics for systemic risk (55%), including compliance (37%), client segmentation (21%), and external fraud (13%). Risk analytics and compliance reporting are most likely to be outsourced, too.

### Dell Buying Scalent

Dell announced its plans to buy Scalent, a purveyor of virtualization management software for servers. Palo Alto, Calif.-based Scalent has worked with Dell on an OEM basis on projects such as the Dell V/OE Infrastructure Manager provisioning system. Dell plans to incorporate Scalent's intellectual property into its Advanced Infrastructure Manager offering, it says. Neither company released details on the terms of the acquisition, although Dell expects to finalize it within its second fiscal quarter, which ends this month.

### RIM Has A Remarkable Quarter

BlackBerry maker Research In Motion reported upbeat results for its first fiscal quarter of 2011, which occurred March to May of this year. The Canadian firm shipped a record 11.2 million devices, up 43% year over year; among those 11.2 million devices was the company's 100 millionth device. Net income grew to \$768.9 million, representing \$1.38 per diluted share, up 41% from the price per share last year. The company also announced a buyback of up to 31 million common shares for cancellation over the next year, although it will have to secure regulatory approval in order to repurchase more than 10 million shares.

### More Than A Quarter Of iPhones Experience Problems Within Two Years

If you purchased an iPhone two to three years ago, there's a good chance you've had problems with it since. Square Trade, an extended warranty company covering iPhones, found that devices failed at a 26% rate within the first two years after purchase. The good news is that the failure rate is going down as improvements are made and devices are built to be sturdier. In an analysis done last year, iPhones were failing at a 31% rate over two years. Square Trade estimates that the more sturdy iPhone 3GS will have 20% fewer problems than the 3G model and that the latest iteration, the iPhone 4, should be even sturdier still; however, some analysts have expressed concern about the iPhone 4's all-glass back being prone to damage.

### More Firms Outsourcing Network Security

A study by Frost & Sullivan estimates that the MSSP (managed security service provider) market earned \$1.2 billion in revenue in 2009 and that MSSP revenue will reach \$3.9 billion by 2016. The analyst firm attributes the predicted revenue increase to the growing need to protect enterprises from ever-increasing attacks targeted at organizations and the fact that MSSP services require no up-front cost and no initial investment. Large enterprises account for nearly 60% of MSSP revenue in North America, and Frost & Sullivan found that data center virtualization appeared to be the driving factor because it reduces data center footprints, making enterprises more inclined to outsource security operations in order to further reduce operating costs.

### Key Points

- A Windows 7 service pack is essentially a security fix and involves a patch management process like any other software deployment.
- Some of the fixes in SP1 are related to recent hotfixes for bugs, such as an error that causes damage to MP3 files in Windows Media Player.
- Most experts agree that it is best to install hotfixes as they appear and then use SP1 as a cumulative deployment to address all user needs.

desktops and laptops [and] have a plan that does not interrupt the business flow."

### What To Expect

According to official TechNet documents for Win7 SP1, the update, which will be available in beta at the end of this month, addresses the recent hotfix program in Win7 and rolls these hotfixes into one release. This means that for clients that have not used Windows Update faithfully for regular security maintenance, the SP1 release fixes any flaws in the OS related to security or, in some cases, addresses bugs and flaws in the OS itself.

Wedeking notes that, for an SME without the staff to make sure updates are installed on every client, including desktop stations and laptops used by sales staff, Win7 SP1 is actually a helpful release because it can help tighten security across the entire organization.

This also helps in the event of legal discovery so IT staff can show they deployed the service pack to every workstation.

However, according to Bob Muglia, president of the Server and Tools Business at Microsoft ([www.microsoft.com](http://www.microsoft.com)), Win7 SP1 also has important features to support the new Windows Server 2008 R2 SP1. In that release, Microsoft has added the framework for cloud computing, especially for adding server virtualization features and then using Win7 as a cloud client.

### Minor Tweaks?

The new SP1 release addresses several minor enhancements and fixes in the popular desktop OS, mostly related to security issues. For example, a recent hotfix addresses a data corruption problem in Windows Media Player that caused damage to some recorded MP3 files.

Another fix addresses a blue-screen-of-death problem that was related to power management on some laptops. The error, which appears as STOP: 0x0000000A,

caused the computer to crash suddenly and with a blue-screen warning message.

These security updates are not critical by themselves, but taken together, they make for a slightly less stable OS for end users. Yet, as Bryan Rhodes, the director of product management for the Endpoint Management Group at Symantec ([www.symantec.com](http://www.symantec.com)), Win7 SP1 rollouts should take into account the severity of each minor patch update.

"As a general rule for service packs vs. point fixes, there are two factors we look at: risk and impact," says Rhodes. "Any updates released prior to the service pack that address material risk for an organization should be rolled out ahead of the SP. Risk is determined by relevancy and severity, which is usually a measurement that takes into account Microsoft's rating as well as other authoritative sources [that] can provide info about actual exploits."

In the end, the SP1 release is important for staying current, says Rhodes, and is far better than the other option: staying with the original release of Win7. □

### Costs Of Deployment

The costs of deploying a service pack depend on the staff you have available, the patch process you need to develop, and the costs of security breaches.

"On the impact side of the equation, each update that is rolled out incurs cost (which is usually time and effort) and the potential for unintended consequences," says Bryan Rhodes, the director of product management for the Endpoint Management Group at Symantec ([www.symantec.com](http://www.symantec.com)). Rhodes says that testing and piloting each new security rollout can reduce those costs and help forgo the unintended consequences. Also, he says, "Low-risk updates can be considered for deferral to a larger delivery vehicle such as the upcoming SP1."

## IT Salaries Inching Up



In spite of the recent economic climate, the salaries of IT employees seem to be making some progress. The results of international management consulting firm Janco Associates' "2010 Mid-Year IT Salary Survey" were encouraging. Total average compensation for all IT professionals has increased from \$77,690 to \$78,210, although total compensation for all positions in midsized enterprises has dropped slightly while that for larger enterprises has risen slightly.

The Janco Associates study examined businesses in a variety of industries across the United States and Canada. The study looked at large companies with gross revenues equal to or greater than \$500 million and midsized companies with gross revenues less than \$500 million. Rather than just strictly salaries, the study looked at total employee compensation, which includes bonuses, perks, the fair value of supplemental compensation such as additional time off, educational cost requirements, business trips, car allowances, stock options, insurance, and 401(k) programs.

### Study Group

The study group included executives, middle managers, and staff at large enterprises as well as their counterparts at midsized enterprises. Of these groups, executives at midsized enterprises were the only ones to have experienced a drop in salary. The rest saw an increase. Victor Janulaitis, CEO of Janco, says, "Smaller companies have management which typically are in-tune with the operations of the enterprise, and management is often paid with an eye toward company earnings performance vs. demand for particular skill sets," which could explain the drop in average salaries for executives at midsized organizations.

CIOs fared the best. Their mean compensation in large enterprises increased 7.52% to \$181,533. Salaries for CIOs in midsized enterprises rose 3.73% to \$169,303. "As productivity has improved, CIOs have been given much of the credit and they are getting more bonuses based on job performance," Janulaitis says. But these increases have yet to be passed down in the organization.

In spite of the increase in salaries, the news is not all good. "The recession has cut IT to the bone, and there is no clear sign that IT jobs will regain the luster they had before the recession," Janulaitis says. IT is "standing still" in small and medium-sized enterprises, he says, and it will be difficult for CEOs to "see IT as something other than a cost center."

by Patrick Kean

## FEATURE PACKAGE

# Resolve Windows 7 Compatibility Concerns

**Get Microsoft's Newest OS To Play Nice With Your Existing Applications & Systems**

by Sixto Ortiz Jr.

**AFTER THE POOR** reception Windows Vista received, Microsoft badly needed a hit to get back in the game. Fortunately for Microsoft, Windows 7 has turned out to be a reliable OS that is garnering minimal bad press and much praise.

Although home users are adopting Win7, enterprises are moving a bit slower. And that should come as no surprise: It is a long process to prepare any enterprise for an OS migration because numerous issues must be resolved prior to rolling out the new install. One of the critical issues for administrators is making sure that Win7 is compatible with existing enterprise systems. Enterprises looking for a successful upgrade must carefully consider all compatibility aspects between Win7 and existing systems to ensure a trouble-free migration.

### Ferret Out Compatibility Issues

The greatest fear for administrators looking to upgrade to Win7 is the potential lack of compatibility with existing applications. If Win7 is rolled out without regard to application compatibility, administrators will quickly encounter unhappy users who will pepper the help desk and support staff with phone calls.

Enterprises should not underestimate the application compatibility challenge, says Benjamin Gray, senior analyst at Forrester Research. According to Gray, firms on Windows XP or earlier versions should anticipate that about two-thirds of their applications will not be natively supported on Win7. But, he adds, firms that deployed Vista or performed application compatibility testing against it should only have 3 to 5% of applications that are not natively supported by Win7.

An important issue is the fact that Win7 uses a structurally different user profile than WinXP, so administrators need to fully

understand this difference before stepping into the migration, says Simon Rust, vice president of technology at AppSense ([www.appsense.com](http://www.appsense.com)).

Chuck Nailen, technical trainer at Binary Research International, says that in order to prepare for a Win7 migration, administrators should ensure that their organizations go through complete testing of all software and hardware to verify Win7 compatibility. Also, adds Nailen, each company's compatibility problems are going to be unique, especially for custom-built in-house software that has been around for many years.

One of the key ingredients to a successful Win7 deployment is familiarity with the Microsoft Application Compatibility Toolkit, says Dan Griffin, founder and managing partner at JW Secure ([www.jwsecure.com](http://www.jwsecure.com)). This toolkit allows administrators to test existing software portfolios against the new OS; any issues discovered are diagnosed using the toolkit, which can optionally assist in the creation of a shim. Also, he adds, Win7

supports an XP Mode that is essentially a virtualized instance of WinXP running on top of Win7, which can bridge compatibility gaps and help admins transition slowly into Win7.

### Software Upgrades Required?

In order to successfully navigate a migration to Win7, administrators may need to use the XP Mode to run applications that won't run on Win7, says Rust. However, if admins are looking to migrate to cheaper, under-powered computers—such as netbooks—they should heed the fact that netbook hardware will most likely not be able to power both Win7 and the virtual WinXP machine, he adds.

Nailen recommends that enterprises upgrade all machines—especially those that will run the 64-bit version of Win7—all, says Gray, even though elements of Win7—such as the re-vamped Start menu, folder management, and search tools—are new, many users have already been exposed to Vista or Win7 at home, greatly reducing the learning curve.

But, he adds, IT must deliver some amount of training to strengthen understanding of what has and hasn't changed, particularly for users resistant to change.

### Key Points

- Although Windows 7 is a very reliable OS, enterprises may still face considerable application compatibility issues.
- Without planning or testing, a Win7 migration will quickly run aground. Planning is essential to success.
- Win7 may require significant upgrades to system hardware such as RAM.

to at least 2GB of memory. Even those enterprises that choose just to run the 32-bit version should consider upgrading to at least 2GB, if not 4GB, of memory.

Gray recommends that administrators tie the OS upgrade to hardware upgrade purchases. This means treating OS and PC upgrades as one, which can be as easy as purchasing or leasing new desktops, laptops, and netbooks that come preloaded with Win7. Gray says this is the optimal approach for firms that have the resources and want to avoid the complexity behind hardware compatibility testing and manual upgrades.

Gray adds that administrators should invest in client management tools that automate hardware and OS upgrades. However, he says, environments are becoming increasingly heterogeneous as Macs, netbooks, and virtual clients spread into the enterprise. This means that the right management tools are those that can handle these heterogeneous environments.

An alternative for enterprises considering a migration to Win7 is the use of application and desktop virtualization, says Forrester's Gray. Application virtualization builds efficiencies into IT processes by encapsulating applications into simplified images that significantly speed application deployment, improve remote access, remediate conflicts, and reduce service desk support calls.

### Avoid The Landmines

So what are potential trouble spots, and how can administrators avoid them? Nailen says enterprises that don't do enough up-front planning or testing and expect an upgrade project to be completed quickly are likely to run into trouble. Many conversion projects, he adds, can take six to 12 months at a minimum to complete.

Another pitfall is expecting networking and installation personnel to master the free Microsoft Deployment Tools in a short time, Nailen says, adding that there is a steep learning curve to the ins and outs of these products. There are other migration tools that are easier to use and learn, he says.

User acceptance is critical to any proposed upgrade or migration in the IT world, and Win7 is no different, says Rust. Therefore, the user experience is critical to the migration to the new OS, so IT must fully consider the implications of user profiles as part of the user experience and ensure that the migration appears seamless to users.

According to Nailen, another key element is keeping users and management in the loop. Management is needed for project support, while users won't be happy if an upgrade is shoved at them without any input into the process. In other words, buy-in from stakeholders is required for success. ■

### What About Training?

A point administrators may want to consider is the need for user training. As with any kind of IT upgrade, there will be a learning curve with Windows 7, especially for those users who are resistant to change.

However, according to Ben-jamin Gray, senior analyst at Forrester Research, the Win7 user experience is not significantly different from Windows XP or Vista and thus shouldn't require a large training effort. After



STORAGE

## HOW TO

# Implement Storage Encryption

## Assess Your Environment & Choose The Most Appropriate Encryption Technology

by John Brandon

• • •

**I**N AN AGE of legal discoveries, breaches over wireless networks, and scams on Facebook, data encryption has become more vital than ever. According to research by the Ponemon Institute, the average data breach at a company level costs \$6.75 million. That's enough to send shivers down the spine of the most seasoned IT manager, but fortunately, the process of implementing storage encryption is not as complex as it might appear.

### Starting Out

According to Robert Fitzgerald, president of The Lorenzi Group ([www.thelorenzigroup.com](http://www.thelorenzigroup.com)), companies should first prioritize data stores and determine what exactly should be encrypted. This can include laptop drives, thumb drives, smartphones, servers, and even home computers used by remote employees. The process should also include the location of all of these data repositories, not just the devices, and should be as comprehensive and detailed a process as possible.

Phil Ayres, founder of Consected ([www.consected.com](http://www.consected.com)), says storage encryption technology is actually fairly mature, but companies should extend their surveys to include data backup systems, which may use an older form of encryption that is not compatible with existing technologies.

"Encryption is not so hard, since there have been many available file-system approaches (such as directory encryption in Windows NTFS and partition encryption in Linux LVM) for a while, but they have done a poor job of handling the issue of data backups," says Ayres. "If you make a backup of the data, it's often made in its original unencrypted form, which you then have to re-encrypt, or you have to keep backed up as a whole solid mass to ensure its integrity—and neither work particularly well." Ayres says open-source tools are available that help you encrypt each data file individually, which helps with long-term data storage.

SMEs should also consider the policies they put in place. According to Michael Schultz, president of Message Infusion ([www.messageinfusion.com](http://www.messageinfusion.com)), managers should go beyond just encrypting data with the latest technology product: They should also implement a process for encryption. This involves being able to demonstrate how and where data is encrypted in the event of a legal discovery.

"Be sure you look at the higher-level issues of compliance and safe harbor," says Schultz. "Most storage encryption is put in place for the security benefits for those who understand hardware encryption, so it is best implemented for the performance benefits of moving encryption to the drive level. However, few are looking at the safe harbor issues of how to prove a drive was encrypted at the time of loss, theft, or compromise, which is what keeps organizations off the newspaper front pages."

### Key Points

- Choose policies that will protect the company in a legal discovery, especially those that prove the encryption process worked.
- Select your technology based on the needs of the organization, such as whether you typically do not want to do regular maintenance (with appliances) or prefer better key management (with software).
- Analyze worst-case scenarios for a breach to give you an idea of how much to spend on storage encryption and how to protect company assets.

Some of the policies put in place should also deal with unstructured data, says Gretchen Hellman, vice president of marketing at Vormetric ([www.vormetric.com](http://www.vormetric.com)), and not just the actual data stores. "Encryption must protect both structured and unstructured data stores that can include database and file server files, folders, documents, image scans, voice recordings, and logs," she says.

### Encryption Options

Once you have a good handle on the storage locations and policies required, the next step is to choose an encryption technology. According to Lou Branda, a storage technologies consultant with Accenture's Data Center Technologies consulting practice ([www.accenture.com](http://www.accenture.com)), there are three main options: appliances that encrypt all data at the company, backup solutions, and software encryption technology.

"Appliances are turnkey solutions that are favored due to their strong key management platforms, ease of deployment and management, and ability to refresh the appliance hardware without worrying about the media type," Branda says. "They generally sit between the disk and the target media (tape) and can be deployed in either an FC-based SAN, SCSI (direct attached), or NAS (IP-based) . . . and therefore are very adaptable to the many backup architectures. They also offer the highest speeds. Remember that encryption increases the amount of time it takes to complete a backup due to the extra processing."

Tape systems such as LTO-4 can also encrypt data. "IT firms will find that they are constantly planning for hardware refreshes that require the consideration of maintaining these specific tape formats," Branda says. "It basically means that no matter what, they either have to stick to the standard they have chosen or undertake a huge effort to migrate from older standards to newer or different standards. It also does not provide any ability to encrypt data to portable media."

The third option is to use software encryption technology for storage mediums. This software is used between the

backup media and the target server. Branda says this kind of encryption can lead to some slowdowns in backup time, but software has strong key management (for managing the encryption keys used to identify the data). Branda says some vendors have been slow to adopt open key standards, which would present a problem if you decide to switch from one encryption technique to another.

### Costs Involved

Costs for rolling out storage encryption vary by the technology you choose to deploy, but the storage encryption appliances are generally considered cheaper in terms of long-term maintenance. Regardless of which technology you choose, Hellman says the primary consideration has to do with a risk assessment based on what would happen in the event of a data breach. That's a good starting point, she says, because it helps determine how much a company should spend to protect investments.

"When considering encryption costs, it is crucial to take a risk-based approach by considering what data needs to be protected," Hellman says. "Enterprises must ask 'What are the costs if this information gets out?' A recent Ponemon data breach disclosure report shows the 2009 average cost of a data breach \$204 per record. Customer attrition is another important hidden cost of public data breaches. This far outweighs the cost of an effective encryption solution."

That helps an SME avoid some of the most dangerous pitfalls, she says: lack of central management, poor control over encryption keys, and interruptions in system management and performance. □

### TOP TIPS

- Gretchen Hellman, vice president of marketing at Vormetric ([www.vormetric.com](http://www.vormetric.com)), says to watch out for implementing too many encryption standards and strategies. "Avoid ending up with an exploding number of encryption products and all the related key management and policy management headaches that this will bring," she says. "Selecting encryption solutions that have the broadest coverage over the largest number of potential systems will eliminate management headaches, as well as homogenize and consolidate data security policy management."
- Lou Branda, a storage technologies consultant with Accenture's Data Center Technologies consulting practice ([www.accenture.com](http://www.accenture.com)), says to avoid wasting resources encrypting data that does not need to be encrypted. "But do make sure important data is fully encrypted. Failure to do either could result in significant expenses related to data compromise or purchasing more equipment/licensing than necessary."

## Group Calls For More Spending On Alternative Energy

The AEIC (American Energy Innovation Council), which counts Bill Gates and other prominent executives from major companies such as Lockheed Martin and Xerox as members, has released a plan that lays out recommendations to increase U.S. government spending on alternative energy sources while also spurring innovation. Some analysts believe the prominence of the people involved may be enough to start a serious conversation in Washington, D.C.



"Obviously, those leaders, particularly Bill Gates, bring credibility, mindshare, and wealth to the table," says Darin Stahl, a lead research analyst for Info-Tech Research Group. "They have the ability to open doors and try to get meetings scheduled." Stahl says the members of the AEIC have considerable overall experience with innovation, creating a huge advantage because they know how to "take an idea from its early stages to commercialization," which Stahl believes will be necessary for this initiative to be successful.

The AEIC recommendations include the creation of an independent Energy Strategy Board that would create a National Energy Plan for long-term U.S. energy goals and the creation of Energy Centers of Excellence that would serve as R&D centers for energy-related innovation. Perhaps most important is the recommendation that the government spend \$16 billion per year in clean energy innovation. Stahl sees this as being the major political sticking point.

"\$16 billion is a politically debatable amount of money," Stahl says. "More importantly, the issue is not so much the money but how you will possibly create a mechanism and a process such that you can define, track, and measure innovation." Stahl contends the government may misunderstand that "failure breeds innovation" and possibly stop funding some groups. He thinks it would be best to "get these innovators started, then get out of the way."

### More Than Money

Alternative energy sources are already being debated by politicians, but that doesn't mean there isn't room for new organizations or plans. With the prominence of the BP oil spill in the news, it may be an opening for the AEIC and other groups to have their ideas seriously considered. Regardless of what happens, Stahl says the upcoming conversations about energy are going to be interesting to watch.

"Getting to the point where there is at least some sort of centralized discussion and harmonization across the board is important, not for just the U.S., but other countries, as well. I think the BP oil issue just turns up the intensity and lights a fire under the fact that we need to have this discussion," Stahl says.

by Josh Compton

# Portable Storage

## Product

## CMS Products ABS-Secure



## Description

The ABS-Secure encrypted external hard drive features USB 2.0 connections with capacities ranging from 160 to 640GB. Designed for optimum portability and rugged durability, the ABS-Secure weighs just 7 ounces and features the CMS DataGuard shock-absorbing sleeve, which allows the drive to sustain a shock of 190Gs while operating and 1,000Gs when not operating. ABS-Secure features 256-bit AES encryption and CMS' CE Secure Full Disk Encryption Software (which now supports 64-bit operating systems) as well as CMS' BounceBack Express Version 8.0 for backup and restore capabilities. ABS-Secure is powered by USB and spins at 5,400rpm.

- QuickRestore lets you restore individual files or folders
- Multidestination backup lets you back up to any local or mapped network drive simultaneously
- Continuous data protection
- Three-year warranty

**Best For:** Sensitive data storage in rough environments.

**Price:** \$135 (160GB); \$145 (320GB); \$169 (500GB); \$179 (640GB)

## CMS Products Vault OTG



The Vault OTG encrypted flash drive uses 256-bit AES encryption to protect against prying eyes in the event of loss or theft. To increase protection, the Vault OTG supports passwords of up to 64 characters. Available in capacities of 2GB, 4GB, 8GB, or 16GB, the Vault OTG comes preconfigured for immediate use right out of the box with preloaded software and drag-and-drop functionality. To protect against threats from keyloggers, Vault OTG features a screen-displayed keyboard.

- Powered by USB
- Weighs 1 ounce
- Includes 19-inch lanyard
- Automatically locks when unplugged and requires a password to unlock
- Leaves no trace of activity on your system

**Best For:** Anyone who needs to use public computers but has sensitive data.

**Price:** \$31 (2GB); \$40 (4GB); \$60 (8GB); \$111 (16GB)

## Compellent Portable Volume



The Compellent Portable Volume is designed to jumpstart disaster recovery by cutting initial replication synchronization time from months to hours without the need for dedicated high-speed data links or duplicate arrays. Customers replicate data to encrypted portable drives from a Compellent SAN via a standard USB connection and then ship or travel with the drives to a remote site. The two high-capacity external drives offer 128-bit encryption and are housed in a ruggedized case for added durability. Once the locked case with the external drives arrives onsite, the administrator simply needs to plug the USB drives into the remote SAN, and Compellent's Enterprise Manager software automatically syncs the data to the site.

- Utilizes two external hard drives preconfigured for and auto-recognized by Compellent storage
- Uses a common USB 2.0 interface
- Protects the drives with a ruggedized transport case equipped with a TSA-approved lock

**Best For:** Organizations looking for a cost-effective way to replicate data between sites as part of a comprehensive disaster recovery strategy.

## Product

## IronKey S200



## Description

The IronKey S200 is a physically and cryptographically secure USB flash drive with FIPS 140-2 Level 3 validation. Used by government and enterprise customers, the S200 features hardened physical security, the latest Cryptochip technology, active anti-malware, and enhanced management capabilities.

- Tamper-resistant and tamper-evident rugged metal case
- Anti-malware capabilities in hardware designed to provide a layer of protection from malware and prevent its spread onto networks
- Includes extended-life flash memory capable of running high-bandwidth applications such as data backups, virtual machines, or bootable mobile desktops
- Enterprise Management Cloud Service for enforcing security policies, providing security and anti-malware updates, and tracking and auditing hundreds of thousands of devices

**Best For:** Business personnel who need a portable device to store ultra-sensitive information.

**Price:** Starts at \$79 (1GB)

## McAfee Encrypted USB By SanDisk



McAfee Encrypted USB drives, powered by SanDisk, impose mandatory hardware-based encryption on all files, as well as password protection to safeguard data stored on company-issued drives. These USB devices are designed to help enterprises mitigate the risk of data loss by ensuring that data on the USB device remains inaccessible unless an encryption key or password is provided. McAfee Encrypted USB drives are designed to boost security defenses with automatic, device-resident malware scanning.

- Ultra-fast transfer speeds and a simple user interface
- FIPS 140-2 Level 2-certified
- Hardware-based 256-bit AES encryption
- Mandatory access control for all files with strong password enforcement
- Uses McAfee's ePolicy Orchestrator software for centralized management

**Best For:** Enterprises that require stringent security for their portable data.

**Price:** Starts at \$32

## MXI Security Stealth MXP Bio &amp; Stealth HD



MXI Security's Stealth MXP Bio is a biometric USB drive with 256-bit AES hardware encryption that offers secure portable storage, digital identity features, and enterprise-level device management in capacities of 1 to 32GB. The Stealth HD features the same level of encryption and is available in both biometric and nonbiometric versions. The drive is ideal for organizations that need encrypted, high-capacity storage for portable storage, desktop, and OS environments and is available in 250GB, 320GB, and 500GB capacities with up to three-factor authentication. Both devices are powered by MXI Security's FIPS 140-2 Level 3-validated Bluefly Portable Security Processor.

- Onboard anti-malware and antivirus protection
- Up to three-factor authentication (biometric, password, smart card)
- Multiuser capabilities (10 different users per device)
- Waterproof, dust proof, and tamper evident

**Best For:** High-security data protection.

**Price:** Starts at \$114 (Stealth Bio) and \$300 (Stealth HD)

Processor's Product Spotlight highlights options available in key data center product categories, providing product information side-by-side for easy comparison.

Compiled by Seth Colaner

## Iomega eGo Encrypt Plus Portable Hard Drive, 500GB



The Iomega eGo Encrypt Plus Portable Hard Drive is designed to let you take sensitive data with you anywhere. With a USB interface, hardware-based encryption (256-bit AES), and Iomega's Drop Guard Xtreme feature, the eGo Encrypt Plus Portable Hard Drive protects your data from unauthorized access and accidental drops. The 500GB hard drive is silver and includes the Power Grip band. The eGo Encrypt Plus Portable Hard Drive includes EMC Retrospect software and MozyHome Online backup (2GB free) service.

- Extra security with 256-bit AES hardware encryption
- Drop Guard Xtreme feature protects the drive when dropped up to 7 feet
- Compact size, measuring 0.75 x 3.84 x 5.57 inches (HxWxD) and 0.6 pound
- Hardware-based encryption boosts performance
- Can automatically back up your drive with EMC Retrospect and MozyHome Ultimate Online software

**Best For:** Rugged applications that require durability and security.

**Price:** \$129.99

## Iomega eGo SuperSpeed USB 3.0 Portable Hard Drive, 500GB



Iomega's new eGo SuperSpeed USB 3.0 Portable Hard Drive features next-generation USB 3.0 technology for faster data transfer speeds. The drive is also backward-compatible with USB 2.0 and features a 500GB capacity. The drive requires no external power supply, instead getting its power from the USB port on the computer. eGo drives include the Iomega Protection Suite of Internet security and backup software, which includes Trend Micro Internet Security, Iomega QuikProtect, EMC Retrospect Express Backup, and MozyHome Online Backup software.

- USB 3.0 speed
- Includes security software
- Free 2GB of storage from MozyHome
- Three-year limited warranty

**Best For:** Fast storage on the go.

**Price:** \$129.99



## Nuvol-e Nimbus Mini USB



The Nuvol-e Nimbus Mini USB comes with preinstalled encryption and compression software for simple, secure backups of your important data. The sleek Nimbus drive is designed for portability and can be plugged into your notebook, netbook, desktop, or mobile phone for fast, simple file transfers.

- Built-in 256-bit AES encryption
- Password-protected
- Up to 2:1 automatic file compression
- Multilanguage
- Schedule your backups daily, weekly, or monthly

**Best For:** Secure file transfers on the go.

**Price:** \$49.99 (8GB), \$89.99 (16GB)

## Olixir Mobile DataVault 3DX



The high-capacity Mobile DataVault 3DX is an easy-to-use, secure, rugged plug-and-play data storage tool. Mobile DataVault drives range in capacity from 320GB to 2TB and can be used interchangeably with Olixir's USB 2.0, FireWire, SATA, and eSATA cable interfaces. An optional 5.25-inch docking bay means the drives can also be used as hot-swappable cartridges with Olixir's chassis-based systems, which include 5.25-inch bays, desktop towers, and large-capacity 19-inch rackmount systems. The Mobile DataVault drives support Mac OS 8.6 and higher, Win2000/XP/Vista, and Linux OSes.

- Ultra-rugged portable hard drives can be used standalone with cable interfaces or in Olixir's chassis-based systems
- Can survive nonoperational shocks of up to 1,200Gs
- Can easily be repurposed, eliminating waste and maximizing ROI

**Best For:** Maximum storage capacity needs in rough environments.

**Price:** Starts at \$350

# Helping SMEs Go Tapeless

Bus-Tech Is Blazing A Trail In The Storage Market With Its Tapeless Approach

by Holly Dolezalek

**IT CAN BE LONELY** in a market you've helped create. Companies that introduce products that don't fit within the current paradigm can spend a long time out in the cold, trying to convince potential buyers that what they have is what the buyers need—and that the fact that it's not like other products is a good thing.

Bus-Tech, a maker of tapeless storage products for mainframe libraries ([www.bustech.com](http://www.bustech.com)), has emerged whole from that kind of situation and has done so with a product that its competitors are now emulating. That tells Jim O'Connor, Bus-Tech's director of product marketing, that his company has changed the market, and for the better. "The reaction in 2001 was that you had to have tape, and we were mocked by [our competitors]," O'Connor says. "Those [companies] now have tapeless options."

## A Range Of Options

Bus-Tech has been around since 1987, and its first product was a single-board computer that could connect Ethernet networks to mainframe channels. Today, Bus-Tech's main claims to fame are its MDLs (Mainframe Data Libraries), a set of virtual tape library controllers. Bus-Tech's MDLs work with IBM-compatible and Unisys 2200 mainframes, and they vary by data transfer speed and by the number of channels and tape devices they can support.

up with virtual storage managers to collect data sets for better tape utilization, and we decided to come up with a library that didn't need tape."

With big competitors whose main interest was in a market that wanted tape, Bus-Tech needed muscle to help it break into markets that wouldn't necessarily be receptive to a lack of tape. There was plenty of resistance in those early days, which isn't entirely gone today, O'Connor says. So the company partners

market. But Bus-Tech saw a need and interest in smaller companies, as well, prompting the creation of MDLs that would appeal to small to medium-sized enterprises. Its larger MDLs came up with options that included both the controller and the storage. For example, the MDL-100S is intended for companies with storage needs that aren't as extensive as larger companies; unlike Bus-Tech's larger MDLs, the MDL-100S has storage contained in the controller. The

# BUS-TECH

with disk vendors and uses their networks of resellers instead of doing direct sales. That means that Bus-Tech's partners are sometimes storage vendors and sometimes resellers that are also storage vendors. The company has about 25 resellers, and one of Bus-Tech's priorities is to reshape that network. "Most storage companies are either open systems or mainframe, and very few bridge that gap," O'Connor says. "The ideal company understands both, but the primary

MDL-100V, available in FICON or ESCON configurations, also appeals to SMEs; it processes tape data to a VTL (virtual tape library) system.

## Ever-Changing Needs

Storage disks get smaller, cheaper, and faster all the time, which is good for the storage market but means Bus-Tech has to stay on its toes, making sure that its products are configured to work with those changes. The company also has to keep up on storage technologies that aren't related to the actual storing, but with the handling of data as it's stored—encryption, deduplication, and so on. "We just added RSA key management to [Virtuent]," O'Connor says. "There are always new functionalities, and we have to determine which technologies that apply to the market should be added."

Even if virtual tape has been accepted in the mainframe market to some extent, Bus-Tech still encounters resistance to the idea, and the company continues to educate customers about the advantages of going tapeless. O'Connor says the two primary arguments are control and space

## BUS-TECH

(800) 284-3172  
[www.bustech.com](http://www.bustech.com)

- Bus-Tech specializes in tapeless storage systems for mainframe libraries in enterprises of all sizes.
- The company's Mainframe Data Libraries work with mainframes from several big-name manufacturers, and its Virtuent application writes data to a variety of storage arrays, including NAS and SAN.
- "We're going to look for new markets to leverage our presence into, and our controller can handle all types of media, whether it's SATA, SAN, WORM—you name it," says Jim O'Connor, Bus-Tech's director of product marketing.

reduction. "We talk to potential customers with 120-square-foot tape silos, and when you're talking about 17 of them, that's 2,000 square feet," he explains. "When you can talk about reducing that to one rack of 19 inches, taking up two tiles in the data center, that's a compelling argument."

The control argument is more complicated but just as compelling, and Bus-Tech sales engineers are able to talk about being able to encrypt data as it's transmitted securely and using snapshots of data instead of the actual data to do testing.

Bus-Tech's big goal is to expand its footprint in data centers. "We've got about 1,000 controllers in data centers now, and we're hoping to expand that," O'Connor says. He notes that the storage market is constantly changing, and there's no way to know whether disks or solid-state media will be the medium of choice or whether it will be a totally new technology that wins out. Regardless, O'Connor thinks Bus-Tech will be there whatever happens. "We're going to look for new markets to leverage our presence into, and our controller can handle all types of media, whether it's SATA, SAN, WORM—you name it," he says. □

**"Other companies were coming up with virtual storage managers to collect data sets for better tape utilization, and we decided to come up with a library that didn't need tape."**

- Bus-Tech's Jim O'Connor

For example, the MDL-6000 can handle 1.5GB of data per second. It can support between six and 12 FICON channels and between 768 and 1,536 tape devices. The MDL-1000, on the other hand, has one FICON channel and can deliver 100MB of data per second to up to 256 tape devices.

Bus-Tech's Virtuent application runs on the MDL, and it handles the protocols and writes data sets to whatever storage arrays the customer has, including network-attached storage, storage-attached networks, WORM (write once, read many) media, and many other options.

## Changing The Market

Bus-Tech came up with its technology because of what was happening in storage: expanded capacity. "At first, the capacity of tapes was 50 megabytes, but soon that was a terabyte, and so relatively small data sets wasted tape," O'Connor explains. "Other companies were coming

skill set is mainframe, because you've got to be able to talk mainframe to these guys."

## Selling Well

Although Bus-Tech is a U.S.-based company, a fair chunk of its business is overseas, about 40%. That international footprint is concentrated in Europe, but the company sees sales in Japan, Korea, South America, and Australia, as well.

Bus-Tech does well in the financial and healthcare verticals, particularly banks, insurance companies, and stock traders. O'Connor notes that tapeless libraries have a particular appeal for financial companies, especially for purposes of compliance with e-discovery and requirements to maintain data for seven years in its original form without alterations.

Most of its customers are larger companies, and for some time, the company's products focused on that end of the

## A Look At Bus-Tech Products

Product	Description
MDL-100S	Virtual tape library with FICON or ESCON channels; provides up to 4.5TB of RAID-protected storage
MDL-2000	Virtual tape library with two FICON or two to three ESCON channels; delivers 300MB of data per second and emulates up to 256 tape devices
MDL-4000	Virtual tape library with between four and eight FICON channels or six and 12 ESCON channels. Can support between 512 and 1,024 tape devices. Includes up to four redundant independently operating emulation nodes, two redundant Access Control Points, and the ability to attach large-scale storage arrays.
MDL-6000	Virtual tape library with between six and 12 FICON channels and can emulate 768 to 1,536 tape devices. Includes up to six redundant, independently operating emulation nodes, two redundant Access Control Points, and the ability to attach large-scale storage arrays.

## Key Points

- The EPA's Energy Star Certification program is intended to identify energy consumption goals for categories of devices.
- Shared storage typically consumes about 15% of the energy in a data center, and this amount is expected to grow.
- Don't just look for energy-efficient products—seek out energy-saving architectures (such as SSDs instead of HDDs) and methods (such as deduplication), as well.

# Energy Star Certification For Enterprise Storage

**More Efficient Systems Will Help Reduce Power Consumption, But Strategy Is Also Key**

BY DANIEL P. DERN

*Reducing energy consumption has become a growing priority everywhere, from homes and offices to data centers.*

*In 1992, the U.S. EPA (Environmental Protection Agency) established its Energy Star Certification program, which today has certifications in more than 60 product categories.*

*"Our objectives are to encourage the widespread adoption of appropriate hardware and software strategies to improve energy efficiency," says Una Song, product manager for the Energy Star program ([www.energystar.gov](http://www.energystar.gov)). "We also want to provide purchasers with the means to identify the most energy-efficient systems for their application, and we want to provide appropriate tools and information for building designers and managers to improve efficiency."*

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## ■ DATA CENTER CERTIFICATIONS

In terms of data centers, the EPA has already created certifications for servers—which typically represent two-thirds to three-quarters of data center power usage—and is now taking on storage, beginning with enterprise storage systems, which account for about 10 to 15% of data center energy use.

"Having an Energy Star rating for a storage system will help end users compare and contrast systems based on this characteristic knowing the methodology is consistent," says Noemi Greyzdorf, research manager at IDC. "It will also allow users to have energy consumption be another feature to look at along with replication, protection, etc."

The process began with a framework released by the EPA to define a taxonomy and other aspects and issues to be considered, including what kinds of data the EPA wants to collect on which to base its decisions.

In April, the EPA released Draft 1.0 of the enterprise storage standard. The next steps will be more data collection and other input from vendors and other stakeholders, moving along ultimately to a final specification.

"We hope to finalize the specification by the end of the year, but since this is an interactive data-driven process, that can be subject to change," says EPA's Song. Once this is done, qualifying products bearing the certification will probably show up within six to 12 months.

## ■ CERTIFICATION ALONE IS NOT ENOUGH

It's important to understand that simply buying Energy Star-certified gear isn't sufficient. "The Energy Star certification qualifies the equipment, but it still needs to be used properly," Song says.

Also, companies don't have to wait for the storage-related Energy Star program to become greener in their storage configurations. "Everybody should look at their current configuration," says Wayne Adams, chair of the SNIAs board of directors. "You may be able to justify a complete refresh based on power savings and capacity."

In an October 2008 white paper, the SNIAs notes, "There is no single silver bullet to dramatically reduce IT energy consumption and cost. Instead, multiple energy-efficient technologies can be deployed in concert to reduce the overall energy footprint and bring costs under control."

For example, moving from sub-100GB drives to 1TB or from a hard drive to a solid-state drive can significantly reduce power use; similarly, power management features, such as spinning down disks and using variable-speed cooling fans, can reduce power consumption.

"It's in how you use the equipment," notes Mike Rowan, CTO at IT analytics firm Viridity Software. "You can improve a disk drive's efficiency, but there's a better impact by turning unneeded drives off for five to 10 hours a day."

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## I WinXP SP2 Users Face Increased Security Risks

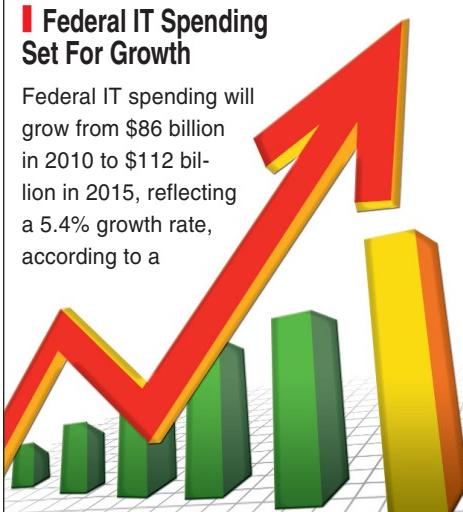
Now that Microsoft has ended support for Windows XP SP2, companies still using that version of the OS face increased security risks, according to Softchoice. In the days leading up to the OS' July 13 retirement, the company found that 45% of the systems it analyzed were still running SP2, and nearly 80% of organizations have a high enough prevalence of SP2 to warrant the immediate action of upgrading their systems to SP3 or to Windows 7. Softchoice says many users delayed SP2 deployment because it was such a major overhaul; however, SP3 is a more minor incremental update, so companies have no compelling reason for delaying a move to SP3. Microsoft currently plans to continue support for WinXP SP3 until April 2014.

## I Education, Training Pave Way To Broadband Adoption

According to the Federal Communications Commission and several broadband adoption forums and groups, the United States should rely on local education and training as well as more effective computer donation programs in order to help spur greater broadband adoption. The FCC says that 95% of households could utilize wired broadband, but only 65% currently subscribe, and that the low adoption rate is due not only to the price of broadband and computers but also because nonsubscribers do not understand the relevance of broadband use. In its national broadband plan, the FCC suggested that the National Digital Literacy Corps team up with local organizations to train prospective broadband users.

## I Federal IT Spending Set For Growth

Federal IT spending will grow from \$86 billion in 2010 to \$112 billion in 2015, reflecting a 5.4% growth rate, according to a



recent report from INPUT. The budget shift is the result of the Obama Administration's plan to use technology for key cost-saving and transparency measures. Such measures include the use of technology to help reduce energy costs and to improve government engagement with the public and agencies. The report also indicates that overall spending growth has decreased, but because of the administration's management priorities and empirical spending, "IT spending has some protection from significant reductions."

## I MIT Researchers Envision A Faster, Cheaper Internet

A revamp of router technology could lead to an Internet that runs 100 times—or even 1,000 times—faster, according to an MIT research team. Researchers point out that computers and processors continue to grow in speed and power but that we will need a much faster Internet in the future if programmers and consumers are to take advantage of that increased computing power. At some point, the Internet itself will act as the bottleneck—a choke point researchers feel could be reached within three to five years. The use of optical fibers in routers could speed up the Internet enough to avoid that bottleneck.

# Web Filtering

## Putting It In Place

by William Van Winkle

• • •

**A FEW YEARS AGO**, email and spam were considered to be two of the top security threats enterprises faced. Now, the Web is the new hotbed of security threats, particularly from social networking sites. Web filtering, the technology of blocking certain sites or types of Web content, can help mitigate this threat—if it actually gets used.

IT managers are aware of the risks from social networking sites: A Symantec ([www.symantec.com](http://www.symantec.com)) survey of enterprises found that 84% of CIOs and CISOs considered social networking sites to be a serious threat to their security. Yet, SpamTitan ([www.spamtitan.com](http://www.spamtitan.com)), a security appliances and filtering software provider, surveyed 200 SMEs in the first quarter of this year and found that while 76.4% claimed Web filtering was important, almost half of the respondents admitted to not filtering yet. Those that do filter are trying to prevent malware and maintain employee productivity, the company notes. However, there are other security issues to consider. For example, social networking sites are notorious conduits for phishing and other social engineering exploits. They also allow dishonest or naive employees to send private company information beyond the firewall.

### To Block Or Not To Block

According to Tony Lock, program director with industry analysis firm Freeform Dynamics, the biggest source of infection inside organizations today comes from Web browsing. "So on one level, the need to filter is obvious. But you still have to let people do their jobs, so in Web filtering, you have to be very precise. If you filter too much, the cost of annoying your staff can be very counterproductive."

For example, in a separate report titled "Social Networking at Work," Symantec found that more than 53% of employees

surveyed stated that they were surfing social networks for business reasons, meaning less than half were actually browsing the sites for personal reasons. Blocking social networking sites in such instances can actually hinder an employee's productivity.

Also, Lock concedes that it may be better to err on the side of leniency when it comes to filtering, especially when times are tough and the organization is under stress. A little relief in the workplace can go a long way toward sustaining morale, and this even extends to the use of streaming media, such as the wildly popular World Cup games. However, a little relief doesn't necessitate a lot of waste. It might make sense to have one shared display in the lunch room while filtering access to individual workstations. This can prevent bandwidth bottlenecks that might impair business-critical apps, such as videoconferencing.

### Implementation Tips

Before purchasing anything, companies should begin their Web-filtering process by analyzing how their machines are being used. What sites are being visited? What proportion of these sites is inappropriate? Are there certain times of the day or week when social networking traffic (particularly YouTube) is impacting regular business activities on the network? Without a proper usage model, it's difficult to construct effective filtering policies.

When deploying filtering, SpamTitan advocates a layered approach. Companies need to deploy a variety of tools to monitor and manage how individuals use new Web applications on premises. The best solutions allow for flexible policy controls, giving different individuals or groups different access rights depending on their level of business need or the company's general level of personal use leniency. Also consider how well a filtering solution might dovetail with the latest virtualized

and/or cloud-based environments that are increasingly becoming the norm.

"Today's Web Gateway solutions need to provide more functionality than URL content checking," says Symantec product manager Sergi Isasi. "The primary goal when implementing a Web Gateway solution should be to protect the organization from malware and ensure access to external business-critical applications is not compromised. Leading products will provide that base level of functionality but go beyond to provide advanced levels, such as inbound anti-malware and application controls. The more advanced products will add the ability to identify infected clients and outbound anti-malware and content control."

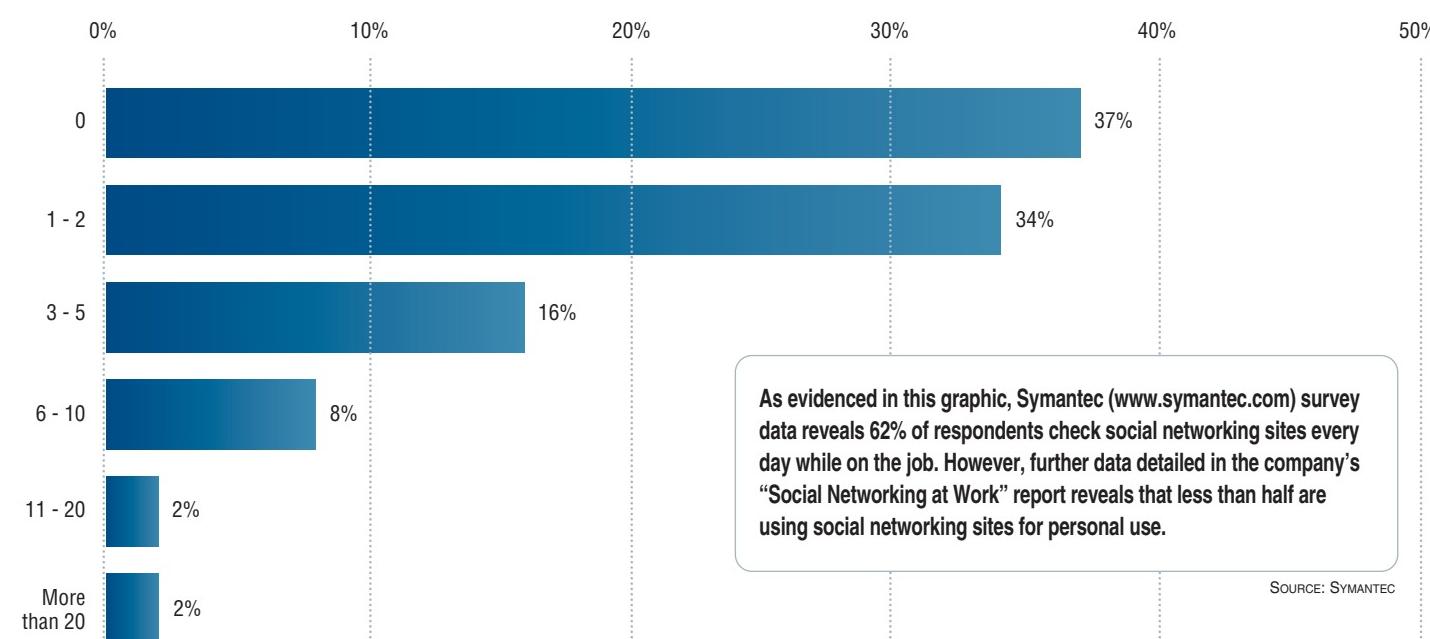
Although leniency in Web and social networking access might be advisable, that doesn't mean that everyone should have it. Ronan Kavanagh, CEO of SpamTitan, recommends that only employees that use social networking for the company's advantage have access to it.

### Key Points

- The Web, and social networking in particular, is widely recognized as a key malware threat vector. Despite this, nearly half of all enterprises don't currently employ Web filtering.
- Some believe that employees should have access to social networking, both for business and personal use, for improving morale. That said, not every employee necessarily needs to or should have access to these sites.
- Web filtering solutions should make managing filtering policies easy. Many policies will be consistent across enterprises, but some will need to be tweaked and updated periodically, and this should be a quick, effective process.

Not least of all, remember to communicate effectively with employees. Freeform Dynamics' Lock emphasizes that it's important to ensure that staff understands what filtering is about to happen and why. "The usual mistake is being too strict up front and not communicating properly. So one day, people are accessing the Web in a certain way, and the next day, they can't reach sites they were just on. At worst, that will generate morale problems, and at best, it's going to generate support calls to IT because nobody knew it was coming." □

### On average, how many times per day do you access social networking sites such as Facebook or YouTube from work?



# VoIP Deployments In Smaller Enterprises

Are You Ready To Make The Move?

by William Van Winkle

• • •

**LATE IN APRIL**, UK-based Star ([www.star.co.uk](http://www.star.co.uk)), a hosted services provider, made headlines when it announced that 41% of the SMBs it surveyed had already deployed VoIP and another 20% planned to deploy it over the coming year. This echoes similar results found across the pond in March by Infonetics Research ([www.infonetics.com](http://www.infonetics.com)), which projects 15% growth in phone extensions over the next two years, nearly all of which will be IP solutions. Interestingly, though, Infonetics Directing Analyst Diane Myers expects less than one-third of total VoIP service revenue will come from enterprise users by 2014. Why the ongoing hesitation for enterprises to embrace VoIP?

The answer apparently doesn't lie in security concerns. According to Star's announcement, "only 9% of all respondents viewed security concerns as a potential issue . . . [showing] a marked contrast with perceptions from just three years ago when nine out of 10 companies surveyed by event organizer InfoSecurity Europe had VoIP security concerns." Instead, Star cites call quality, reliability, and network capabilities as more dominant concerns, and the No. 1 reason enterprises gave for not adopting VoIP was lack of on-staff expertise.

## Buying Knowledge

These days, even small enterprises are likely to have IT resources on staff with at least some communications expertise. The problem is that IP communications involve a whole different knowledge set than conventional PBX-based telephony. Many of the concepts may be similar, but the implementation of those concepts is different.

"Phone systems in general almost always require some expertise," says Mark Monday, vice president and general manager, Small Business Technology Group, Cisco ([www.cisco.com](http://www.cisco.com)). "Settings like hunt groups, IVRs, and dealing with trunks can seem complex to the average data-trained person. However, you're seeing a lot more networking resellers installing voice since VoIP systems utilize the same data infrastructure vs. a separate set of lines."

With vendors such as Cisco and Avaya putting new emphasis on voice systems training for their reseller partners, there's no shortage of possibilities when shopping for VoIP solution providers. Enterprises that want to get running with VoIP as soon as possible will likely outsource the task to these providers rather than take the weeks or months needed for trying to handle deployment in-house. Moreover, even if in-house staff manages to achieve 98% deployment competency, that 2% can still yield a lot of costly delays and support headaches.

"Enterprises are probably going to use channel partners, at least for the initial implementation and a lot of the end-user training," says Mark Massingham, product and solutions marketing manager at VoIP products provider Avaya ([www.avaya.com](http://www.avaya.com)). "Plus, these partners are experts in preplanning—cataloging users, setting up voice messaging [and] auto-attendant,

## Key Points

- Lack of IT staff experience remains the leading impediment to enterprise VoIP adoption.
- Managed and hosted VoIP services can solve the VoIP expertise barrier, but enterprises shouldn't expect large, immediate cost savings.
- In on-premises or managed solutions, having modern, capable VoIP hardware and monitoring network bandwidth is key for long-term VoIP ROI.

establishing hunt groups, managing call routing [or] call rolling to another location. You can't just throw one of these systems in and hope for the best."

Massingham notes that when the deployment is finished, many enterprises will have their IT staff take over the maintenance. The training needed for maintenance will also likely come from the installing channel partner as part of a larger services agreement.

## Managed Or Hosted?

Of course, some enterprises will choose to focus on their core competencies rather than dedicate resources to expanding IT support. With a managed VoIP service, the enterprise owns and keeps all voice equipment and systems on-premises, but a third party manages the hardware and software. With hosted services, the systems and software are maintained remotely, leaving only the necessary phones and controllers within the office. This transitions VoIP into an operational expense model rather than a capital expense.

Although this sounds advantageous, the benefits don't come free. Many people make the mistake of thinking that VoIP savings are instantaneous. But long-term savings usually only follow after some short-term costs. With managed services, the organization has to contract for the service plus purchase all necessary hardware up front. With a hosted model, providers usually charge on a per-seat basis, generating an ongoing expense. Either way, this can put a crimp in managed or hosted adoption for those with pinched budgets.

Moreover, some managers resist outsourcing their VoIP because they feel it will result in a loss of control over a key part of their operations.

"You don't know how that provider is delivering the service, how they support you, or how issues are escalated," says Jayanth Angl, senior research analyst at Info-Tech Research. "If you have an on-premise system, the organization has the ability to allocate more resources to a system, to monitor and adjust service levels as required. If you outsource, you may lose that flexibility. The concern would be managing that service provider relationship day to day as well as the costs of the solution."

## Maximizing Returns

Despite the hurdles, most sources agree that VoIP can save enterprises money and offer greater functionality than traditional non-IP telephony. The ROI proposition improves if enterprises make sure that VoIP services aren't going to negatively impact their other network operations. Presumably, bandwidth monitoring was done before deployment to make sure that sufficient capacity was available for the VoIP loads.

Cisco's Monday notes that even though voice doesn't use much bandwidth, quality expectations leave little room for error. This is why modern LAN switches and routers built to handle real-time traffic and ensure voice packet prioritization are so critical. If deployment is done internally, IT staff must understand how to properly configure such hardware for optimal performance.

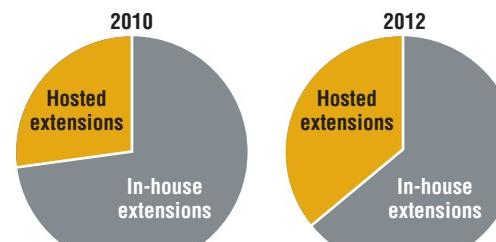
"VoIP is very sensitive to latency, so it does not deal well with network congestion," says Netgear's Peter Newton, director, business product marketing ([www.netgear.com](http://www.netgear.com)). "Using VLAN technology to clearly separate voice traffic from data traffic as well as layer 2 or layer 3 QoS to prioritize the voice traffic should ensure good performance. If possible, select the codec with the least compression, as that will reduce the impact of any single lost packet. Also, we recommend running on Gigabit Ethernet to maximize throughput."

Companies need to continue monitoring network bandwidth after installation and watch for any new data apps or usage scenarios that might impair voice or other services. Avaya's Massingham points out that just as new apps can disrupt VoIP performance, if only by constricting the organization's bandwidth bottleneck, the new VoIP users can slowly strangle other seemingly noncompeting apps. Smaller enterprises with less aggregate bandwidth are particularly susceptible, so ongoing monitoring and management remains paramount. □

## North American Enterprises Plan To Increase Use Of Hosted VoIP Services

Infonetics projects that hosted VoIP solutions will gradually gain in popularity over in-house options, perhaps out of enterprises' reluctance to extend their IT support to the extra demands of IP voice services.

SOURCE: © INFONETICS RESEARCH, COMMUNICATION EXPENDITURES AND IP PBX VENDOR RATINGS: NORTH AMERICAN ENTERPRISE SURVEY, MARCH 2010



**Hosted:** Extensions on TDM Centrex or hosted VoIP services  
**In-house:** Extensions on customer-owned TDM and IP PBXs

## Finland Makes Broadband Access A Legal Right

The Finnish government has ruled that its citizens are entitled to reasonably priced broadband access as a basic right. FICORA (the Finnish Communications Regulatory Authority) ruling mandates that local telecom providers offer this service—at least 1Mbps—to both home and business users in much the same way that phone and mail services are offered. Additionally, 26 local telecoms will function as so-called "universal service providers." Cost for the service may vary according to local tariffs, but FICORA feels that a monthly fee of 30 to 40 Euros (or about \$37 to \$47) is reasonable.

## White House Freezes Financial Systems Projects

The White House has decided to put a number of IT projects on hold in an effort to reduce costs and spend money more efficiently. The attempt to overhaul aging financial management

systems was projected to cost \$20 billion in total, with another \$3 billion spent per year in maintenance costs. The move is controversial, with some parties concerned that the halt will disrupt too many workers and end up costing more in the long run. Federal CIO Vivek Kundra will review the situation and look to modernize the government's IT strategy, likely cutting poor-performing contractors and possibly looking at cloud computing solutions.



## Sony Recalls Some VAIO Models

Sony is recalling several of its VAIO F and C series notebooks because they're at risk of overheating. The company says about 535,000 notebooks sold since January could be at risk for the problem, which is caused by an error in the internal temperature management system. The company is also recalling an additional 111,000 notebooks it says have less serious problems with the BIOS software. The overheating presents a potential burn hazard for users and can cause deformation of the product's keyboard or external casing, according to Sony. The company is urging owners of the affected notebooks to download a firmware patch from its Web site ([esupport.sony.com](http://esupport.sony.com)) or to return the unit so the company can install the firmware.

## Gartner Estimates Cloud Growth

According to Gartner, global cloud services revenue is expected to increase by 16.6% and reach \$68.3 billion by the end of 2010. In 2009, cloud services netted \$58.6 billion in revenue, and Gartner estimates the industry will grab \$148.8 billion by 2014. Additionally, Gartner projects software as a service, platform as a service, and infrastructure as a service will earn a combined \$112 billion by 2015. In a statement, Ben Pring, research vice president at Gartner, said that organizations are seeing the benefits of core cloud ideas, such as pay for use, multitenancy, and external services, throughout the past 18 financially unstable months.

## Broadband Users Are Happy With Their Service

The FCC recently indicated that it is taking a hard look at broadband speeds in the United States, which lag behind many of those found in other developed countries. The Leichtman



Research Group came out in defense of the ISPs with its recent survey, which found that although 77% of U.S. broadband customers are unsure of what their broadband speeds are, 71% are very pleased with the service. Those who were not satisfied only represented 3% of the sample. Just 26% of those polled said they wanted faster Internet speeds, while significantly more—44%—said that they are not interested in higher-speed Internet. The survey concludes that the demand for fiber optic Internet access has yet to materialize, something Verizon appears to have confirmed when the service provider put the brakes on its FiOS fiber-to-home rollout. Of those who do not currently subscribe to broadband, less than 1% claim that cost is a barrier.

## IT Fears Unauthorized Devices & Applications

Cisco recently polled more than 500 IT professionals and discovered that the security liabilities they fear most are users accessing the network with unsupported mobile devices and running unauthorized applications. According to Cisco's findings, more than half of those polled said that their employees are using unsupported applications, and 41% say they are accessing the network with those devices. Of the respondents who said employees were using unauthorized applications, 68% said social networking sites were the biggest offenders. One-third of those who said employees were using unauthorized devices such as smartphones said that those devices have caused some form of security breach or data loss. When these devices are blocked, however, employees commonly circumvent the policies to continue using them. A majority of the IT professionals, 71%, said that policies that are too harsh can make it difficult to hire and retain younger employees.

## Dell Forecasts Revenue Jump In 2011

Dell says it expects a 14 to 19% increase in fiscal 2011 revenue as customers begin to replace their aging computer systems. The announcement, which came at Dell's annual financial analysts' conference, meets analysts' expectations of a 16% increase in revenue. Dell also said that its full-year operating income would rise between 18 and 23% compared to a year earlier. However, investors are worried whether the computer maker, which has steadily lost market share to HP and Acer, can maintain profitability.

## Smartphones To Take Over GPS Market

According to research firm iSuppli, smartphones, rather than GPS-only devices, will be the leading navigation-based gadgets in the coming years. The company predicts that by 2014, 297 million smartphone navigation units will be sold vs. the 81 million units projected for this year. Such units are either sold with the device or separately as an added application. The Apple iPhone is the No. 1 smartphone platform for post-sale downloadable navigation applications. Nokia and Android-based devices are expected to climb to the top of that list, as well. Ovi Map turn-by-turn navigation is included in Nokia smartphones, and Google Maps is included in Android smartphones.

## SIX QUICK TIPS

# Rebuilding Servers

## Know What To Do & When

by Bruce Gain

• • •

**SERVER LIFE CYCLES** can typically be four to five years, but admins often face scenarios in which server performance does not meet expectations long before the machines are scheduled for replacement. In many cases, it can make sense to rebuild servers instead of paying more money to replace them. Here are some things to keep in mind to get the best value for your money when rebuilding servers.

### Make Sure The Infrastructure Can Handle The Rebuild

After determining that it makes more sense to invest in a rebuild than to buy new machines, the infrastructure required to handle the new power loads needs to be taken into consideration. This involves assessing the impact on power and cooling for the entire rack, says Nik Simpson, an analyst for the Burton Group.

"For example, if you have a rack full of servers that are close to exhausting the power feed or which are already causing cooling problems, then adding a 10GbE NIC, 128GB of memory, and another processor to each server may be buying yourself a world of hurt by upgrading," Simpson says. "Similarly, adding a quad-port Ethernet card plus four cables from each server in the rack may cause you some serious airflow problems at the back of the rack if you don't plan this carefully."

### Get The Right Components At The Right Price

The rebuild process can serve as an opportunity to realize solid performance gains without making a heavy investment. For example, a very high-end processor configuration can be limited by a lack of RAM capacity, which can be remedied by just adding more memory modules. Or on the network end, replacing the NIC can boost server access speed across the LAN. However, it is important to correlate the direct impacts the new parts will have and their relationship with the other components for each part before it is added.

"Understand where your performance bottlenecks are before deciding on an upgrade," Simpson says. "For example, if the server is memory-bound and there's no room for more memory, then putting an SSD in the server will cost you money and deliver disappointing results vs. buying a server that can handle more memory."

Time can sometimes be on your side when adding individual components because prices tend to fall during the months and years after their release compared to what parts would cost when the machine was originally purchased.

"A couple of years later after you've purchased the server, some parts are standard and easily available, which you can find for cheaper prices," says Brad Kowal, assistant data center director for Shands HealthCare in Florida.

### Find The Right Project Leader

Rebuilding servers is often seen as part of a checklist of things to do without much thought given to who is in charge of the project, despite the complexity involved. Part science and part art, upgrading servers with the right parts, assessing whether or not a rebuild is warranted in the first place, and determining how applications can benefit involves a special skill set. It is also likely that someone on your staff not only has the knowhow to see the project through to completion but will actually enjoy doing it.

"When you have people that are knowledgeable, driven, and have fun, it makes doing any job better," says Lonnie Laub, a senior technician for Stallard Technologies ([www.stikc.com](http://www.stikc.com)). "For rebuilding servers, this means people with a great troubleshooting mind and people that keep up on new and old technology and who are friendly with both co-workers and customers."

Indeed, the project is more than just putting new parts and software in the box, Laub says. "Anyone can rebuild a server, but making sure all components are accounted for, updated, and tested is a huge benefit for customers," Laub says. "Once updated, running through any

## BONUS TIPS

■ **Check the OS.** You may have checked that the rebuilt server can handle the applications, but what about the operating system? "Reinstalling an OS and finding out later that you do not have the install bits or disks for the applications can be a serious issue," says Scott King, vice president of data center operations for The

Planet ([www.theplanet.com](http://www.theplanet.com)). "Many times, software is installed from media that has been lost, moved, etc., months or years earlier. A little planning here can reduce the downtime for the server significantly."

■ **Check the warranties.** Rebuilding servers can, in some cases, void the

warranty. "If this is a do-it-yourself upgrade with parts purchased from a third party rather than from the OEM, then you may invalidate the warranty, so check with your vendor about warranty conditions before doing this," says Nik Simpson, an analyst for the Burton Group.

### Best Tip:

## Know When To Rebuild

A crucial part of the rebuild process is determining when it is appropriate to revamp a machine and when it makes more sense to just replace it. When making this decision, it is necessary to weigh the costs of revamping the server as a percentage of the cost of a new machine. For example, Brad Kowal, assistant data center director for Shands HealthCare in Florida, says that if a new server costs \$5,000 but it is possible to upgrade the old one so that it offers the same level of performance for only 10 to 20% of the price of new server, then investing in a rebuild is a no-brainer. However, for percentages that are a lot higher, other variables have to be taken into consideration, such as departmental budgets and whether it will meet demands for a couple of years, Kowal says.

The age of the server must also be taken into consideration, regardless of its computing capabilities. "If the server is more than four years old, then don't even consider upgrading it," says Nik Simpson, an analyst for the Burton Group. "The advances in power efficiency and performance are so large that a new system will pay for itself in power savings over a relatively short period, particularly if it's combined with server virtualization."

### Most Practical Tip:

## Test The Backup Before The Rebuild

The backup system has functioned flawlessly in the past, but because the data on the server hard disks will be wiped clean as part of the rebuild process, now is the time to make sure you can really rely on it. "Do not assume that previously configured backups are working," says Scott King, vice president of data center operations for The Planet ([www.theplanet.com](http://www.theplanet.com)).

diagnostics to make sure the system will perform as needed when it gets to the customer is a necessity."

### Get The Right Parts For The Application

Rebuilding the server hardware to meet the needs of new applications is more than just making sure that the requisite processor horsepower and memory capacity are in place to do the job. Very often, applications require specific features that the CPU or other components have in order to realize optimal performance. It is thus crucial to study the application in careful detail to determine how it will run on a given rebuilt server configuration before doing a rebuild.

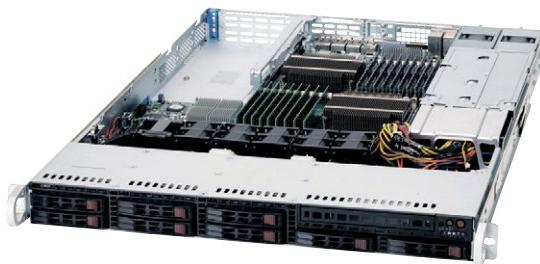
A case in point is virtualization, for which some older components in a rebuild might not serve as a good fit. "When the upgrade is being driven by a move to server virtualization where you plan to repurpose older servers, make sure that the older servers will be suitable for virtualization before making the upgrade," Simpson says. "For example, older processors lack the hardware-assisted virtualization features found in more modern systems, and no amount of hardware upgrades will fix this problem." P

Compiled by Tessa Warner Breneman

# Supermicro Servers

## Product

## SuperServer 1026T-6RFT+



## Description

The SuperServer 1026T-6RFT+ is a 1U rackmount server that boasts an Intel Xeon 5600/5500 Series processor with QPI (QuickPath Interconnect) up to 6.4GT/s. Additionally, the 1026T-6RFT+ can support up to 192GB of memory. Its left side is full height and length with two (x8) PCI-E 2.0 slots. The right side is low profile (5.5 inches deep) with one (x4) PCI-E 2.0 slot. Customizable storage is also available thanks to the eight 2.5-inch hot-swap SAS-SATA drives.

- LSI 2108 8-port 6Gbps SAS controller; RAID 0, 1, 5, 6, 10, 50, 60
- Intel 82599EB 10Gb Ethernet controller with two SFP+ interfaces
- Intel 82576 dual-port Gigabit Ethernet controller
- 700W gold-level redundant power supply
- Super X8DTU-6TF+ integrated board

**Best For:** HPCC node, data center, data farm, front-end server, and other compute-intensive applications.

## SuperServer 2026T-6RFT+

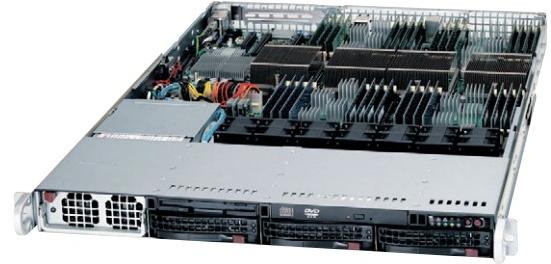


With an Intel Xeon 5600/5500 Series processor and Intel 5520 chipset, the 2U rackmount SuperServer 2026T-6RFT+ offers up to 6.4GT/s QPI. The 2026T-6RFT+ can hold up to 192GB memory. The right side is low profile (5.5 inches deep) with one (x4) PCI-E 2.0 slot, while the left side is full height and length with two (x8) PCI-E 2.0 slots. This server boasts a Platinum-level redundant power supply at 920W.

- LSI 2108 8-port 6Gbps SAS controller; RAID 0, 1, 5, 6, 10, 50, 60
- Customizable storage available through 16 2.5-inch hot-swap SAS/SATA drives
- Integrated IPMI 2.0 with dedicated LAN
- 920W high-efficiency redundant power supply
- Super X8DTU-6TF+ integrated board

**Best For:** HPCC node, data center, data farm, front-end server, and other compute-intensive applications.

## SuperServer 8016B-TF



The eight-core, four-way SuperServer 8016B-TF is a 1U rackmount server that offers the Intel Xeon processor 7500 Series and an Intel 82576 dual-port Gigabit Ethernet controller. Based on the Supermicro Super X8QBE-F server board, the 8016B-TF boasts up to 256GB of memory and has three hot-swap drive bays (3x SAS/SATA drive support). The 8016B-TF also has an integrated IPMI 2.0 dedicated LAN and offers 93% energy efficiency.

- Intel Xeon processor with QPI up to 6.4GT/s
- Up to 256GB DDR3 1066/978/800MHz ECC registered DIMM
- 1 x16 PCI-E 2.0 slot
- LSI 2108 8-port 6Gbps SAS controller; RAID 0, 1, 5, 6, 10, 50, 60
- 1400W Gold-level high-efficiency power supply

**Best For:** Enterprise mission-critical applications, HPC cluster nodes, data centers, and data farms.

## Product

## A+ Server 1012G-MTF



## Description

Based on the single AMD Opteron 6100 Series processors (Socket G34), the 12/eight-core-ready 1U rackmount A+ Server 1012G-MTF utilizes the AMD chipset SR5650/SP5100 and the Super H8SGL-F motherboard to increase performance. Additionally, the 1012G-MTF can support up to 128GB of memory and offers two Intel 82574L controllers for dual-port Gigabit Ethernet as well as eight USB 2.0 ports and a dedicated LAN for system management. Four hot-swap SATA drive bays are also available.

- HT3.0 link support through AMD Opteron 6100 Series processors
- Up to 128GB DDR3 1333/1066/800 MHz SDRAM in eight DIMMs
- One PCI-E 2.0 x16 slot
- 350W high-efficiency power supply
- AMD chipset SR5650/SP5100

**Best For:** File/print server, firewall, mail server, SMB Web server, server appliance, or cluster node applications.

## A+ Server 1042G-TF



The A+ Server 1042G-TF is a 12/eight-core-ready 1U rackmount server based on Quad/4-way AMD Opteron 6100 Series processors and the AMD SR5670/SP5100 chipset. With the Super H8QGi-F integrated board, the 1042G-TF provides up to 512GB of memory, and it includes one PCI-E Gen 2.0 x16 slot. Additionally, the 1042G-TF offers a dual-port Gigabit Ethernet LAN controller with four USB 2.0 ports and one dedicated LAN for system management (IPMI 2.0). Three hot-swap SAS/SATA drive bays are also available.

- 1400W high-efficiency power supply
- HT3.0 link support through AMD Opteron 6100 Series processors
- Up to 512GB registered ECC DDR3 1333/1066/800 SDRAM in 32 DIMMs
- IPMI 2.0 + KVM with dedicated LAN support
- 17.2 x 1.7 x 28.2 inches (W x H x D)

**Best For:** High-performance compute cluster, virtualization server, or online transaction processing applications.

## SuperBlade TwinBlade



As the newest addition to Supermicro's SuperBlade family, the innovative TwinBlade doubles the number of dual-processor compute nodes per 7U enclosure to 20, allowing for up to 120 DP servers per 42U rack for a dense, cost-effective solution. Based on the SBI-7226T-T2 blade supporting the latest Intel Xeon 5600 Series processors, this system delivers unprecedented performance per dollar and per square foot. Available with dual 40Gbps QDR InfiniBand switches, this blade solution features industry-leading 94% power supply efficiency.

- 20 DP (Intel Westmere and AMD G34) nodes in a 7U enclosure
- 128GB ECC-registered DDR3 per DP node
- Dual 40Gb InfiniBand, 10GbE, and 8Gb FCoE switches
- Dual 1/10Gb Layer 2/3 Ethernet switches
- Centralized remote management via IPMI 2.0 with KVM over IP

**Best For:** High-performance computing in data center, enterprise, and cloud computing deployments.

## Report Identifies Top Social Media Risks

According to a recent report by ISACA, previously known as the Information Systems Audit and Control Association, businesses are not immune to social media risks. The report, "Social Media: Business Benefits With Security, Governance, and Assurance Perspectives," identifies the top five risks for companies using social media: viruses and malware, a lack of content control, unrealistic customer expectations of "Internet-speed" service, brand hijacking, and noncompliance with record management regulations.

Jeff Spivey, trustee for the IT Governance Institute (ISACA's research affiliate) and president of Security Risk Management, says additional risks exist within any emergent technology, and those risks need to be understood and quickly managed.

"We, as a culture, will hear the word 'risk' and think that all risks are bad," Spivey says. "The companies that understand the risk and then best manage those risks provide their company with a competitive advantage."

### Impact At & Away From Work

ISACA's report not only addresses the risks of social media use in the workplace but also analyzes the impact of use outside of work. As a result, the report recognizes the effects of such risks, such as corporate reputation damage, a decrease in productivity, or a loss of competitive advantage, and provides tangible solutions to accompany each threat.

To counteract the risks, ISACA suggests businesses should consider content filtering for company computers and mobile devices to restrict or limit access to social media sites at the workplace. Other suggestions include daily antivirus and anti-malware updates, training for risk awareness, clear policies for office workers, and a sufficiently sized staff to handle the traffic a social media presence generates.

The report explains that employees may be using these sites without understanding all of the threats, so education about risks, proper use, and company policies can also help develop safe practices.

Though the risks may make companies hesitant about social media use, ISACA reports that complete elimination may not be the best option, as these sites can be valuable in improving brand recognition and monitoring both competition and customers.

And, as Spivey points out, social media use isn't going to disappear anytime soon. "It's getting larger . . . and it's not something that's going to go away," he says. "The risk of not being involved in it and understanding it is much greater than the risk of ignoring it. It's important that each company understands what opportunity this now provides and how to best manage that opportunity."

by Amanda Bouc



## CASE STUDY

# On A Mission To Create A Paperless Office

## Cabinet NG Keeps Insurance Company On Track

by Julie Sartain

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**FOR MORE THAN A DECADE**, businesses nationwide have discussed reducing their carbon footprints by implementing a paperless office. Yet, according to environmental organizations, Americans still use more than 50 million tons of paper each year, and global consumption is about 400 million tons a year.

Maya Assurance, headquartered in Long Island City, N.Y., needed to launch a paperless office as soon as possible. Cabinet NG ([www.cabinetng.com](http://www.cabinetng.com)) had the products to make it happen.

### The Challenges

"For our particular scenario—a small and growing company—our most pressing problem was storage," says KJ Singh, vice president at Maya. "We had originally reserved 20% of our office space for files but quickly realized that we would need a lot more than that. The additional shelves and filing cabinets needed to keep pace with our growing business would have required us to move to a larger office space very soon. For a new company, a premature investment in a larger office would have slowed our growth."

Maya considered developing custom software programmed from scratch. "We also looked at additional off-the-shelf software products," says Singh, "but the initial costs were prohibitive. Plus, the other products still would have required considerable customizations to fit our needs."

Singh says that after comparing multiple products, Maya's team selected CNG-SAFE (Shared Access Filing Environment) for multiple reasons. First, it was easy to customize the application without major development. Maya Assurance did not have to hire a dedicated programmer to make the product fit its needs. Second, the core platform was stable and flexible enough such that the company did not have to invest much time or money in starting up.

And third, CNG-SAFE allowed Maya to use its built-in management console to create user accounts, assign security rights, and develop an e-filing infrastructure to fit Maya's needs. "With our experience with IT, CNG's setup was extremely user-friendly," says Singh. "There was minimal training required for the support staff to implement CNG-SAFE."

Another plus, adds Singh, is that because each department has its own requirements, CNG-SAFE allowed the company to design the e-cabinets accordingly. There was no one-size-must-fit-all with the software. "Once each department defined its needs, with minimal setup time, we were able to implement CNG-SAFE."

Insurance companies have many regulatory requirements, such as document retention, which dictates that documents

must be retained for six years. Thus, simple document archiving was Maya's original reason for purchasing CNG-SAFE.

"Our next goal," Singh adds, "was to incorporate these new technologies (such as CNG, for example) into our business operations and save the company considerable expenses. Once files were scanned, the plan was to use offsite storage, thus recovering office space."

### Implementation, Installation & Training

Singh notes that the implementation went well and without any problems. "We did a staged rollout to get over the learning curve and resolve any glitches first," he says. "Once the support team was comfortable with the product, we knew the implementation would go better."

The product itself is actually very intuitive and the learning curve was minimal, he adds, because of the Maya team's experience in IT and its employees who embraced the new technology. Thus, rolling out the software only required brief demonstration with the existing employees, and they had minimal delays because of training. "We did not reinvent the wheel with CNG-SAFE. It complemented our needs without any disruption, and we were able to design our paperless workflow exactly how we processed our paper workflow," says Singh.

"When we first started using CNG-SAFE," Singh says, "we were a small company and only in business for about a year. In an effort to save costs, our initial configuration was to use existing server hardware (which was a single server supporting the entire company). When we made the decision to go live, we purchased a dedicated server to host CNG-SAFE. In anticipation of future growth, we invested in a dual-processor server and a standard RAID array with sufficient disk space."

During the pilot testing, Maya's team was using the software to get more familiar with it. They were setting up the cabinets and users, and testing the security rights within CNG. "We were getting familiar with the scanners, supporting hardware, and settings," Singh adds.

But not knowing all the product's features, the company had planned to start the document archiving and then look into

### Cabinet NG CNG-SAFE

Transforms manual paper-based processes into efficient electronic workflows.

"We did not reinvent the wheel with CNG-SAFE. It complemented our needs without any disruption, and we were able to design our paperless workflow exactly how we processed our paper workflow," says KJ Singh, vice president at Maya Assurance.

(800) 621-6501 | [www.cabinetng.com](http://www.cabinetng.com)

additional "paperless" software for its daily operations. "After we became more familiar with the basics of CNG-SAFE, we discovered its additional features, which would allow us to process an entire paperless workflow in addition to document archiving," Singh says.

Singh also notes that during the pilot period, as users were adjusting to the scanners, resolution, and DPI settings, Singh secured a baseline for Maya's storage requirements. And, depending on future storage requirements, NAS devices can be implemented if necessary.

"Also, the migration from the single server to a dedicated server was done easily with help from CNG tech support," says Singh. "With no downtime, the software was easily reinstalled on the new server, including the database. The local client-side software did not have to be reinstalled. We only had to change the IP number of the desktops to point to the new server, and we were up and running."

### Big Plus, Big Savings

According to Singh, after installing and using the CNG-SAFE product, Maya saved about \$100,000 a year in conserved and recovered office space; \$135,000 a year in decreased support staff, senior examiners, and underwriters; and about \$90,000 in paper, shelves, and supplies that were previously required to maintain thousands of paper files.



Document Management Software  
**Efficient | Secure | Affordable**

"The file archiving is reliable and meets the regulatory requirements," Singh says. "We can increase the case load per person without increasing stress, and the increased efficiency searching for files and documents is phenomenal. It was a small investment in our IT infrastructure that had far greater ROI than anticipated."

As for the future, "We are committed to a paperless environment, and future plans will include CNG-SAFE in our business expansion plans, marketing, and IT operations," Singh says. "We are leveraging our paperless environment with our business partners, investors, and recruiting of new employees. It has definitely set us apart with the industry as a leader in integrating technology."

James True, vice president of business development at Cabinet NG, says the company has been part of many industry firsts. "We were the first to bundle workflow and access rights in the core product," he says, "and the first to offer integrated document management for QuickBooks. We have a patent-pending technology for integration with Windows Apps, a diversified customer base across most industries, and multiple configurations including CNG-SAFE for client/server; CNG-Online for hosted/SaaS; and CNG-Web for browser access."

Future plans include expanding the capabilities that support new online and mobile trends, says Abe Niedzwiecki, vice president of technology at Cabinet NG. "In addition, we plan to increase the number of integrations with SMB applications and grow the value-added reseller (VAR), independent software vendor (ISV), and original equipment manufacturer (OEM) channels to market." P

# Applications Of Analytics To Business

Transform Disparate Sources Of Unstructured Data Into Meaningful Information For Your Enterprise

by Kurt Marko

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**BUSINESS INTELLIGENCE** isn't a new concept in IT, but it has gained visibility and importance as today's digitized, online enterprises have become inundated with data. BI covers a broad spectrum of capabilities and tools, ranging from simple spreadsheet reports or information dashboards to sophisticated predictive analytical models, but it has traditionally been focused on retrospective reporting using historical data, summarizing sales figures

they make their money—in customer relationships. They use analytics to segment their customers and identify their best ones. They analyze data to understand customer behaviors, predict their customers' wants and needs, and offer fitting products and promotions."

According to Brad Peters, CEO of BI SaaS provider Birst ([www.birst.com](http://www.birst.com)), "The most valuable decisions are the ones people usually start with, so sales analytics is a huge area as is any other area that's customer-related."

**"Before you think about spending any money on a BI solution, you want to look at the things that drive your business."**

-Aberdeen Group's Michael Lock

by region, product line, and month, for example. Yet BI is increasingly being supplemented with so-called business analytics, which uses the same data sources, along with quantitative analysis, statistics, and predictive models, to improve business planning and decision-making.

Info-Tech Research Senior Research Analyst Gareth Doherty says BI users fall along a broad spectrum of sophistication. At the low end, he notes, virtually all organizations, including SMEs, have some form of scheduled reporting, even if it's just a simple spreadsheet report. Multidimensional models and analysis, such as OLAP (online analytical processing), represent the next level in usage evolution, while the most advanced enterprises are developing predictive analytical models (business analytics) to guide strategic decision-making. In this article, we will generally use the terms BI and analytics interchangeably, although the former usually implies retrospective reporting, while the latter concerns future planning.

## Major Applications & Uses

In "Analytics at Work," authors Thomas Davenport, Jeanne Harris, and Robert Morison contend that most business decisions warrant some degree of analytical study, but in reality, some functions or business domains are more amenable to BI and analytics than others. Because developing and implementing effective BI and analytical processes and tools requires focused, executive-level planning and, ultimately, sophisticated software and application development, most companies want to find the sweet spots where such investments of time, energy, and money produce the greatest benefits.

When looking at opportune applications of BI and analytics, "Analytics at Work" notes, "Many organizations start where

applications are finance, sales, and marketing; these are the typical uses of BI from a strategic perspective," but he adds that BI is extending its reach. "You're also seeing other cases that weren't traditional usages of BI, like in customer service or human capital management."

Aside from the use of BI tools in various business functions, Lock sees a change in how BI tools are used, expanding beyond their traditional role in strategic planning and budgeting. "You're seeing [BI] used increasingly as a tactical tool, for day-to-day business visibility." Lock also says those further up the BI learning curve have adopted tools for predictive analysis and complex event processing.

## Implications For IT

What does all this mean for IT? "When you're getting started, it's important to understand your needs before you even start looking at the technologies, and doing that requires little technical expertise," Lock says, adding, "Before you think about spending any money on a BI solution, you want to look at the things that drive your business." Only then does Lock see IT involvement in understanding how the solution fits into the company's information architecture and technical infrastructure. He also says IT must ascertain how dynamic, interactive, or real-time the solution needs to be and

whether it's deployed in-house, using special-purpose BI application servers and databases, or sourced from an external SaaS provider.

Doherty says SMEs, many of which use Microsoft for their enterprise databases, gradually develop their analytics competence by leveraging SQL Server's inherent, but oft-untapped, capabilities, such as the Analysis, Integration, and Reporting services. These provide basic BI functions such as OLAP cubes, predictive analysis, so-called ETL (extract, transform, and load) data integration, and a report-building environment. Although high-end, special-purpose BI solutions are also widely available, because of their

## Key Points

- BI and business analytics have historically been used to retrospectively summarize financial and sales data from disparate sources via regularly published reports or dashboards. However, they are increasingly being used for interactive, real-time reporting or predictive analysis to guide future business decisions.
- Although traditionally focused on financial matters, other applications for analytics include supply chain and inventory management, logistics, human resources, and customer service.
- Special-purpose BI solutions can be quite complex and expensive; however, mainstream enterprise databases now include a core set of BI and analytics features. SMEs should also consider new BI SaaS solutions in which all the components and functionality of enterprise-class BI suites are delivered as a subscription cloud service.

cost and complexity, these typically appeal to large enterprises.

## SaaS Options

Another analytics provisioning option is SaaS, with several vendors now offering online BI services. Birst's Peters says, "SaaS is just a delivery mechanism. By prepackaging an entire value chain in a more economical way, you can open [BI] up to more people."

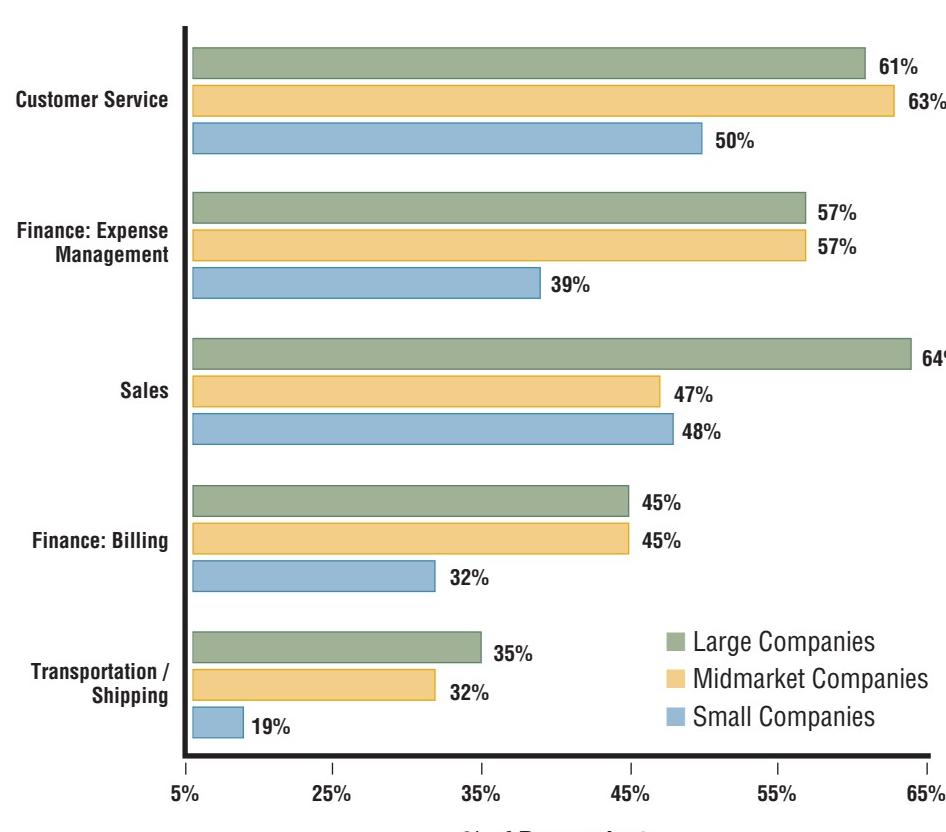
Doherty says online BI solutions have several advantages, including obviating the need for new hardware and software investments, substituting large up-front capital expenses with usage-based operational charges, reducing the number of support staff, accelerating deployment, enabling more cost-efficient scalability, and often improving performance and availability.

But, he says, SaaS doesn't eliminate every task required to develop and deploy an analytics solution. Users must still integrate, normalize, and "cleanse" their data sources and inspect the data for quality and accuracy. They typically must also migrate and load the data to the external provider.

Companies seeking to get a handle on their many sources of financial, transactional, and customer data and use it to make better fact-based decisions have a wealth of BI and analytics options. SMEs can start gradually either by leveraging nascent, unexploited capabilities in their existing SQL Server databases or tapping one of the growing number of SaaS BI providers. Experts caution, though, that becoming an analytical company isn't primarily a technical challenge, but an organizational, cultural, and leadership one. □

## Top Departments Driving The Need For BI

Although small companies lag behind their larger competitors in the adoption of BI solutions, they use them in the same areas, primarily customer service, sales, and finance, according to a survey by Aberdeen Group.



SOURCE: "BUSINESS INTELLIGENCE FOR THE SMALL TO MEDIUM SIZED BUSINESS (SMB): ANALYTICS REACHES DOWN MARKET"; ABERDEEN GROUP RESEARCH REPORT BY MICHAEL LOCK; OCTOBER 2008.

# Equipment Recycling &

## Product

## AnythingIT



## Description

With a suite of IT asset management services, including testing, auditing, and processing, AnythingIT can help you deal with your aging technology. AnythingIT's consultants will perform an IT asset review and analysis that uses a fair-market evaluation of your current technology.

- Recycle Tomorrow program saves costs in the remarketing and recycling process
- Can process IT assets at multiple ISO 14001-certified facilities globally
- Offers custom-designed channel and non-channel programs for OEMs and integrators servicing both government and commercial clients
- Knowledgeable in disposal processing, data mining, and warehouse systems for IT assets
- Unparalleled past performance servicing public-sector clients
- Innovative trade-in and asset recovery programs

**Best For:** Enterprise organizations that need help making cost-effective business decisions for IT storage, disposal, resale, donations, and recycling.

## Apto Solutions



Apto Solutions can help you monetize downsized or liquidated assets, and the company can handle the sales process for you, including market research, valuation, collections, and shipment.

- Features compliance programs for environmental, export, data security, and electronic tracking issues
- Logistics management for recovery and consolidation to the Apto warehouse
- Inventory Management System lets you track the trade process
- Maximize return on investment through an extensive contact network and market knowledge

**Best For:** Companies looking for a recovery service with experience, credentials, and expertise in technology remarketing.

## Classic Computer Recovery



Classic Computer Recovery can refurbish, reuse, and recycle all types of electronics, including PCs, copiers, and televisions, because of the company's zero-waste policy. The inventory is evaluated through a multistep process for serviceability, and the company's associations with wholesale and retail markets allow Classic Computer Recovery to resell the parts of units that can't be sold as a whole unit.

- Equipment is refurbished with working components
- For equipment that can't be resold, the unit is broken down into separate components
- Hardware that's too old for resale is recycled for raw materials
- Data is removed using the DoD's 5200.28-STD directive

**Best For:** Enterprises that have a variety of electronics to remove and recycle.

## Product

## Electra Worldwide



## Description

Electra Worldwide specializes in providing safe, secure, and reliable electronics recycling that produces the greatest benefit to the environment while minimizing the financial impact on its customers. The company has developed systems and solutions that ensure peace of mind—it manages the entire recycling process from start to finish, guaranteeing that clients receive the best value for their equipment.

- Specializes in sustainable recycling and refurbishing of electronics
- Zero landfill goal
- Complete turnkey solution for clients' e-waste and asset management needs
- Employs the latest sanitization and destruction techniques
- ISO 14001 and R2 certified
- Proprietary tracking system ensures that clients can monitor the process

**Best For:** Medium-sized to large companies concerned about reliable, secure, and certified asset destruction or remarketing.

## Frontier Computer



Frontier Computer has been in the business of helping companies plan, build, and maintain their IT infrastructures since 1976. The company buys used computer equipment, excess IT hardware, and enterprise-level IT equipment, including servers, workstations, peripherals, storage arrays, and networking tools.

- Buys excess new or used enterprise equipment
- Offers environmentally friendly end-of-life services for obsolete IT assets
- Works with Cisco, HP, IBM, and Sun hardware
- Global presence helps Frontier respond with speed to customer demands

**Best For:** Enterprises that want to sell their equipment to a company with decades of experience with IT hardware.

## Horizon Datacom



Horizon Datacom purchases network LAN/WAN, wireless, and VoIP equipment from a variety of manufacturers, including Cisco, Juniper, Nortel, Polycom, and 3Com.

- Tests and refurbishes used equipment
- Offers a complete buyback program to protect your hardware investment
- Real-time inventory with everything shown in stock
- Rated A+ by Better Business Bureau

**Best For:** Companies getting rid of surplus networking and communications equipment.

Processor's Product Spotlight highlights options available in key data center product categories, providing product information side-by-side for easy comparison.

*Compiled by Rod Scher*

# Disposal Services

## Converge



Converge focuses on data security and protecting clients from liability by leveraging technology, processes, and customized solutions into the right mix of end-of-life IT asset management and disposal services. And with Converge's 30 years of technology remarketing experience, customers can mitigate or eliminate the costs associated with compliant IT asset disposal.

- Ultimate data security protection
- Environmentally compliant disposal
- Comprehensive remarketing, redeployment, and donation strategies
- Real-time, comprehensive reporting

**Best For:** Enterprise or global organizations needing a secure, compliant global IT asset disposal strategy.

## Data Media Source



DATA MEDIA SOURCE  
[www.datamediasource.com](http://www.datamediasource.com)

Data Media Source buys used tape media, including LTO, AIT, and SDLT, and provides free data destruction, taking care of all the logistic and security concerns you have. Sold media can be turned into cash or exchanged for brand-new media.

- Provides value of the tape and details costs involved
- Tape is shipped with complete chain-of-custody documentation
- Tape is inspected and sorted—you'll be notified of completion
- Once inspection is complete, paperwork is processed for payment

**Best For:** Companies in the process of removing or renewing their tape libraries.

## DMD Systems Recovery



DMD Systems Recovery works hard to minimize your risk and maximize your payback, so you'll get a solid return on investment without worrying about the possibilities of regulatory fines, bad publicity, or litigation from data theft on hard drives that weren't properly sanitized. DMD Systems Recovery offers data de-installation, packaging, logistics, data destruction, recycling, and remarketing.

- Removal and packaging services to preserve value
- Increased ROI through direct purchase or profit sharing
- DoD 5220.22-M-compliant data wipe and NAID-compliant destruction
- Reduced risk through certificates of destruction and compliance and transfer of ownership

**Best For:** Data centers, call centers, and companies with large centralized operations.

**Contact:** (877) 777-0651 | [www.dmdsystems.com](http://www.dmdsystems.com)

## Reclamere



Reclamere's experienced team works with you to develop a data security plan tailored to meet your data destruction, data recovery, and IT asset management needs. Reclamere's experts can also help you execute your legal responsibilities for each phase of the IT equipment life cycle, which helps protect the company, employees, and clients from data breaches.

- Certified data destruction
- IT asset management for safe and secure preparation of electronic equipment
- IT audit and assessment to evaluate a company's risk level
- E-discovery and litigation support to recover information from hard drives for legal procedures

**Best For:** Enterprises most concerned about the security of outdated IT assets.

## Recycle Your Media



Recycle Your Media has a proprietary system for fully erasing data tape media cartridges. The process erases each tape from pin to hub with a magnetic degauss power that's 10 times stronger than DoD degaussing standards. Recycle Your Media offers premium pricing paid now on the following media formats: DLT VS160, 3592, T10000, of T-10000, LTO-4, AIT-4, AIT-5, VXA X-23 tapes, all brands.

- 100% full-length, pin-to-hub erasure for total security
- Recycle Your Media pays for tapes—no more costly shredding services
- Full chain of custody
- Volume serial reports
- Certificate of data destruction
- Drive read/write data test and reset to blank tape, ready-to-write status
- Final quality assurance scan step to confirm full erasure, reset, and data integrity

**Best For:** IT staff who want a green alternative for recycling tape media that's out of its retention period and who need full data erasure and reporting on every tape recycled.

## Redemtech



Redemtech specializes in helping Global 1000 IT organizations reduce the cost and risk of technology change. Our ITAD (IT Asset Disposition) services recover, refurbish, redeploy, resell, and recycle IT assets of every kind with security and transparency.

- Red Rabbitt brand of Microsoft Authorized Refurbished equipment increases value recovery
- High-security reverse logistics virtually eliminates data and asset security risk in-transit
- Global e-Stewards certification ensures responsible management of e-waste
- Surplus IT donation program to support low-income families and nonprofit organizations that lack basic technology
- Integrated operations across the United States, Canada, Mexico, and Europe ensure uniform services delivery and centralized asset management

**Best For:** Enterprises engaged in highly distributed asset recovery and reuse programs, large and small disposal projects, and high-value portfolios.

SERVICES

## FEATURED COMPANY

# A Helping Hand For SMEs

**Acumen Solutions Offers Advice & Consulting On A Variety Of IT Topics**

by Holly Dolezalek

**IT IS TOO BIG AN INVESTMENT** to make haphazardly, and there are times when companies have to reach outside of their own expertise in order to invest wisely and implement those investments with minimal headaches.

Acumen Solutions ([www.acumensolutions.com](http://www.acumensolutions.com)) is an IT consulting firm in Vienna, Va., a suburb of Washington, D.C. Its nearly 700 customers are primarily larger enterprises, such as the Global 1000 and federal government agencies. The company has about 300 employees, 60% of whom work at its headquarters in Vienna. The rest are distributed at the company's New York, San Francisco, Los Angeles, and London offices.

The company doesn't let size stand in the way of opportunities, however; in 2004, it incorporated its managed services division as a company called Alteritech ([www.alteritech.com](http://www.alteritech.com)), an IT infrastructure consulting and managed services firm that serves the small to medium-sized enterprise market. Alteritech has office space in Acumen's New York and Vienna offices.

## Giving Advice

Acumen provides advice and vendor-agnostic software in four solutions categories: Enterprise Architecture and Integration, Customer Relationship Management, Enterprise Transformation, and Information Management. The first category, Enterprise Architecture and Integration, involves advice for companies

revenue, followed by Information Management, which Prakash says is often a natural follower of the Customer Relationship Management segment. "Often, after our customers have improved these CRM systems, they want to find ways to push that new information out to customers or internally for call center reps or others to manage or use," she says.

## Relationship Selling

Unlike many software companies, Acumen's sales model is built on relationships rather than contacts. It gets a lot of referrals from existing customers, whether from one company to another company or from one department to another in a single company. "Our busi-

enterprise," Prakash explains. "Some of [that] software works well out of the box for a medium-sized company, but to really make it work for a large contact center, they have to integrate it with the order system, telephony, and call routing, which is when they typically call us in for integration work."

## Global & Local

Acumen started out primarily in the communications and media sector, particularly in cable, which is still its largest vertical. But the



®

company is getting more and more work in the public sector and with health care, as well. It also does a lot of work with consumer and commercial products and with financial services. "We try to hire people from those industries, so we understand those segments very well," Prakash says.

Acumen doesn't break its business out by region because so many of its customers are global, but the company says that Europe, the Middle East, and Africa are some of its growth areas, at least in that its customers are either building or expanding operations there. "We just serve our clients where and when they need it, and where they're based tends to be irrelevant," Prakash explains.

The company's annual sales are about \$50 million, but Prakash says it may be closer to more than \$60 million by the end of the year.

**"We just serve our clients where and when they need it, and where they're based tends to be irrelevant."**

- Acumen's Donita Prakash

that want to improve their existing or optimize their new IT infrastructure, integrate corporate systems, or migrate functions to the cloud. The second, Customer Relationship Management, includes IT for call center effectiveness and the management of customer and enterprise relationship management, such as systems for sales, marketing, and customer service.

"The Enterprise Architecture and Integration and the Customer Relationship Management segments are our largest ones, and they're about equal in terms of revenue," says Donita Prakash, chief marketing officer for Acumen.

The Enterprise Transformation segment involves helping clients develop strategies for business processes, including roadmaps for improved IT strategy or process or program improvement. It brings in the third largest amount of

own business or strategy unless you trust them," Prakash says.

Referrals from one department to another are quite common. "We might help a company with a CRM system for its contact center and then be referred to their data warehousing because they need help in re-architecting the data to make it more efficient," Prakash says. "Then we might move on to billing because they want to produce invoices faster."

Acumen also has software partners that it co-markets with, such as Google Enterprise, Salesforce.com, or Amazon Web Services. Because the company is vendor-agnostic, it doesn't have special reseller agreements with those companies, but it does get business that way. "As those providers are selling in an industry, companies sometimes need an expert integrator to help make it really work for that

## ACUMEN SOLUTIONS

(703) 600-4000  
[www.acumensolutions.com](http://www.acumensolutions.com)

- Acumen Solutions offers consulting services for a broad range of customers, from small and midsized companies up to Global 1000 enterprises.
- The company is currently working on developing its cloud computing knowledge in an effort to better advise those looking to move to the cloud.
- "Our business is relationship-based, because you don't invite an outside company to define your own business or strategy unless you trust them," says Donita Prakash, chief marketing officer for Acumen.

## Growing In The Cloud

Acumen is also seeing growth in its Enterprise Transformation segment because companies are showing an increased interest in business systems that provide intelligence for better business decisions. "We think we'll see growth for the next couple of years in cable, the public sector, and health care," Prakash says.

The company is focusing more on cloud computing, though, because more and more of its customers are interested in strategy and implementation in the cloud. The economy has encouraged many companies to investigate more efficient or cost-saving ways to invest in IT, which has made the cloud more attractive to some. This is particularly true of the federal government, Prakash says, because the Office of Management and Budget and the CTO and CIO of the federal government are sending the message regularly to agencies that they should evaluate the cloud as part of their infrastructures. "Obviously, the message is that the cloud can deliver some cost benefit for the taxpayer, so agencies are being encouraged to evaluate it," Prakash says.

The government has actually been swifter to adopt cloud-based solutions than the private sector, in some cases, Prakash says. Acumen's largest customer is the U.S. Census, which uses a cloud-based platform to manage the partner networks it uses to make sure the census is successful.

The private sector has shown interest in the cloud, as well, so Acumen has focused on (and become better known for) helping clients make decisions about what should move to the cloud and what shouldn't, taking into account all the concerns that pertain to that choice, such as security, data architecting, disaster recovery, and other issues. ■

## Acumen's Areas Of Expertise

Acumen Solutions' consulting services include four main solution categories:

- 1. Customer Relationship Management:** Focuses on contact center effectiveness, customer insight, enterprise relationship management, and sales automation.
- 2. Enterprise Architecture & Integration:** Focuses on cloud interoperability, enterprise architecture, system integration, and vulnerability and performance testing.
- 3. Enterprise Transformation:** Focuses on IT strategy and innovation, process improvement, and program management.
- 4. Information Management:** Focuses on business intelligence and reporting, data warehousing, and knowledge management.

# The Move To Virtualization

How Can It Affect Your Enterprise & IT Staff?

by Jean Thilmany

• • •

MANY SMALL TO medium-sized enterprises are turning to virtualization for some or all of their applications.

Virtualization basically separates the software environment from the underlying hardware, explains Chris Webber, who describes himself as the current virtualization guru at network security and management provider Blue Coat Systems ([www.bluecoat.com](http://www.bluecoat.com)).

But before investing in the technology, IT managers still need to thoroughly investigate virtualization, with an eye toward its impact on the enterprise, adds Steve Lesem, CEO at cloud storage provider Mezeo Software ([www.mezeo.com](http://www.mezeo.com)).

**"Virtualization can give a better utilization of resources, but you will have to decide which aspects of the company to virtualize first."**

- Mezeo Software's Steve Lesem

.com). For instance, Lesem explains that while many current servers have a utilization rate of 10%, virtualization of servers can significantly increase that rate while driving down usage costs.

"Virtualization can give a better utilization of resources, but you will have to decide which aspects of the company to virtualize first," Lesem explains. Enterprises just setting up shop may decide to install virtual servers for all enterprise applications from the get-go, he adds.

When managers move applications from individual hardware to shared hardware,

## Up-Front Expense

So how will an enterprise's employees fare when the data center moves to the virtual world? According to Blue Coat Systems' ([www.bluecoat.com](http://www.bluecoat.com)) Chris Webber, they won't notice any differences. In fact, he says they may notice more uptime because software won't get hung up when it runs out of storage space on the server.

It's the chief financial officers to whom IT managers will need to sell virtualization. That's because an enterprise will need to pony up money for the initial hardware outlay.

"But that hardware cost is easily recouped, because you'll be paying less for cooling, power, and space," Webber says.

they can expect to consolidate server space by anywhere from one-tenth to one-half, Webber says.

### Cost Savings

The consolidation adds up to important cost savings, too, because the machines will take up less space, which makes for less money spent on fees for space and for cooling costs. Many managers fail to factor cooling savings into the virtualization equation, Webber explains.

He stresses that over the past five years, makers of virtualization software have upgraded their hypervisors to the point that IT managers no longer need a great deal of expertise in installing virtualization software. The hypervisor, or virtualization

### Key Points

- Follow best practices when initially implementing a virtual environment.
- First determine which application(s) to virtualize; you might choose to make them all virtual.
- When planning your initial environment, consider how your systems will grow and your virtual environment will change over time.

Many virtual servers now include management tools that help cut ramp-up time, she adds.

Still, IT staffers who are building a virtual environment from scratch should follow best practices in server management and configuration. "This will help them down the road, when they have

to add servers or when they have to do the backup," Budko says. "It's considerably harder to implement advanced features later on if you haven't designed it right the first time."

If your IT staff hasn't implemented the separation of duties feature, for example, it won't be able to virtualize the human resources database down the road. That's because the separation feature partitions the infrastructure where sensitive data lives. "You have to design separate clusters within the virtual infrastructure from the start; that way you can virtualize everything," Budko explains.

Once designed and implemented, your IT staff will find that server management and backups are easier in a virtual environment. This is in part because virtualization allows for a common management platform across all hardware and applications, Webber explains.

"You're not married to a certain piece of hardware or operating system," he says. "You have ease of management because once you know how to do something for one thing you know how to do it for everything."

"In my organization, we had the Windows side of the house and the not Windows side, and all of the sudden, when we virtualized things, we realized we didn't need to be tied to an operating system quite so closely. Regardless of the operating system we used, the underlying technology was the same," Webber says.

It's that kind of ease-of-use—combined with cost savings—that have more and more IT managers investigating virtual technology for their enterprises. □

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## Twitter Settles With FTC Over Privacy Concerns

Social networking hub Twitter has recently settled a complaint filed by the Federal Trade Commission involving privacy policies that the FTC considers weak. The complaint stems from a series of events involving hackers gaining access to the private accounts of users and sending fake tweets. The FTC said that Twitter needs to eliminate storing passwords while also highlighting the importance of complicated administrative passwords. Twitter has decided to take advice from the FTC and the public in order to increase the effectiveness of its security and privacy measures.

## Palm Shareholders Approve Acquisition By HP

Palm shareholders have given their nod of approval for HP's acquisition of Palm, according to an SEC filing presented June 25. Both companies' boards of directors previously approved the proposed \$1.2 billion acquisition, which was announced in April. The beleaguered smartphone maker has fallen behind Apple, RIM, and Google in the mobile space in recent years, but at one time it owned more than 70% of the handheld market. Most recently, Palm released the WebOS operating system, on which the Palm Pre smartphone is based. HP has stated it plans to use WebOS in tablets, smartphones, and Web-connected PCs.

## Apple iPhone 4 Sales Through The Roof

More than 1.7 million: That's how many iPhone 4 models Apple says it sold in just the first three days after the smartphone's June 24 release, marking what Apple CEO Steve Jobs says is the most successful product launch in the company's history. By comparison, the original iPhone took more than two months to reach the 1 million sales mark. The smartphone was first made available in the United States, the United Kingdom, France, and Germany, and the company says it will be available in 18 countries by July's end. Apple took 600,000 preorders for the iPhone 4, the most ever for an Apple release.

## Network Security Threats On The Rise

A recent netForensics study points out that most IT managers expect a threat increase over the next two years but also indicates that the industry is neither budgeting nor recruiting enough to counter the threats. About 80% of the 100 IT managers surveyed expect network threats to increase through 2011, but some 78% of those surveyed indicate that IT staff sizes have either remained static or declined over the past year. Analysts at netForensics advise organizations to examine scalable, affordable tools, possibly via a SaaS model, to help combat the threats.

## Salesforce.com Sues Microsoft

Salesforce.com, a cloud-based software company, has sued Microsoft, alleging that the software giant infringed on a number of Salesforce.com's patents and intellectual property. Bolstering Salesforce.com's legal team is David Boies, who was an integral part in prosecuting the U.S. government's antitrust case against Microsoft. Earlier this year, Microsoft sued Salesforce.com for infringement of nine of its patents involving its CRM (customer relationship management) product.



# Open Source In The SME

## Take The Plunge Or Reconsider?

by Chris A. MacKinnon

**THERE IS NO DOUBT** that open-source technologies have gained traction in small to midsized enterprises, especially when IT budgets are tight. But as enterprises take a hard look at open-source technologies, relevant issues must be considered before

### Key Points

- The price of many open-source solutions (free) is attractive for small to midsized enterprises. But keep in mind that "free" doesn't mean migrating to open source comes without a price.
- The goal of an open-source SME deployment is typically to reduce costs. This can be achieved with a mixture of reduced hardware requirements, lower software costs, improved security, and higher performance.
- One potential concern with open source is making sure your solution has solid interoperability with existing infrastructure.

taking the plunge. Can open source really benefit the enterprise? What areas offer the most potential for SMEs? What are the potential concerns?

### Traction Benefits

According to Michael Harvey, COO and managing director of consulting at CorraTech ([www.corratech.com](http://www.corratech.com)), one of the most exciting developments of the last five years has been the emergence of commercial open-source applications in virtually every space—CRM, ecommerce, social collaboration, content management, ERP—that can compete head-to-head with traditional proprietary software.

Harvey says many organizations already have open-source technologies in-house: servers running Linux, MySQL databases, applications, and so on. "In many cases," he says, "if they are large enough to have dedicated IT staff, it is often the IT folks driving organizations towards greater use of open source. Clearly, the days of the open source 'wild west' are essentially behind us."

Peter MacIntyre, president of Paladin Business Solutions ([www.paladin-bs.com](http://www.paladin-bs.com)) and author of the recently published "PHP: The Good Parts," says SMEs can definitely benefit from open-source technologies. MacIntyre comments, "Can they benefit? Absolutely. Consider the price of most open-source solutions—free! The enterprise must consider the costs of buying into the sole-source paradigm: the operating system, the database, and the development environment (all are costly)." He says open source also tends to be more reliable because it is supported by hundreds of programmers around the world. "It is better-tested and more quickly patched as a result," MacIntyre says.

DATA CENTER MANAGEMENT

### Potential For Commercial Use

We are still only touching the tip of the iceberg regarding the potential of commercial open-source software, according to Michael Harvey, COO and managing director of consulting at CorraTech ([www.corratech.com](http://www.corratech.com)). He explains, "Firms of every type and every size are getting serious about open-source software. Many incumbent systems are reaching the end of their natural service lives, and businesses are looking at significant 'forklift' upgrades. For many businesses, the benefits of making the jump to open-source systems is not only cost-effective, but puts them on a path to greater flexibility in the future as innovation occurs."

strides taken by open-source software in the last five to six years. He says they are comfortable with licensing provisions and commercial business models on the vendor's part. However, he says SME business owners and decision makers typically have less exposure to the rapid pace of innovation in open-source software. He comments, "Their concerns are, therefore, similar to themes that have been present for many years. Notable among them: Who will support the application? Won't I run afoul of 'strange' licensing provisions? What do you mean I have to pay—I thought it was free."

Sala says organizations sometimes fall into a trap based on the mistaken belief that open source is free (zero-cost). "Like any IT project," Sala says, "there are going to be costs involved, starting with support contracts (if desired), consulting or internal development and integration efforts, and ongoing upkeep of the running environment." He says this is no different from more traditional proprietary technology implementations. Sala adds that total project costs will still be dramatically lower, but not zero. He says care must therefore be taken when defining budgets and implementation time frames.

According to Carr, potential concerns will lie in ensuring interoperability with—and continued smooth operation of—the existing infrastructure. He explains, "Typically, customers do not embark on a rip-and-replace strategy; rather they make a decision to use open-source solutions for

"Many open-source technologies have been in existence for many years, and for some, over a decade."

- Alfresco Software's Luis Sala

new deployments while leaving the existing systems in place. IT staff used to Microsoft environments are likely to need appropriate training, while Unix staff will transition to Linux easily. In times past, some customers were concerned about viability of the open-source supply chain and vendors and potential legal exposure, but these concerns have been thoroughly eliminated today."

The biggest concern, in Aggarwal's opinion, is security. "Application code is usually available for public use. But hackers study the code and try to hack the sites," he says. "The good news is, however, this issue can be resolved by taking the proper steps to upgrade applications and have timely security reviews." □

# Virtual Private Clouds

## Extend Enterprise Data Centers Into The Cloud

by Kurt Marko

• • •

**THE IDEA OF A computing utility—a vast, ubiquitous grid easily tapped for processing power and storage as needed—isn't new, but is finally coming to fruition in the form of cloud services. With the Internet's backbone capacity exponentially increasing, online behemoths building industrial-scale data centers, and SaaS apps proliferating, the notion of metered, on-demand applications doesn't seem so futuristic.**

Yet unlike electric utilities, which just deliver energy, clouds don't just serve up CPU cycles, they're information utilities over which an enterprise's most valuable assets are transmitted, processed, and stored. This gives many IT leaders pause, questioning the wisdom of entrusting a

company's most sensitive data and essential business processes to the vagaries of the Internet and vicissitudes of cloud providers. Although many of these issues are exaggerated, there remain valid questions about the security and isolation of shared systems in a multitenant public cloud. Network security is of particular concern because heretofore, using the cloud meant using the public Internet to access vast server farms, where the network topology and segmentation is often undocumented and intentionally opaque. This is the problem VPCs (virtual private clouds) are meant to solve.

### Key Technology Elements Of VPCs

From a network standpoint, using traditional cloud infrastructure services (IaaS) is much like browsing the Web—users bundle up some data and ship it over the Internet where some servers do their number crunching and return a result. This is problematic for a couple reasons. First, the Internet data transport is usually unencrypted. (The only way to guarantee data security is to incorporate encryption into the actual application.) Second, the cloud servers look like remote systems on a foreign network, not local machines on the enterprise LAN—a potential hurdle for apps designed for client-server LAN communication.

VPCs solve both of these problems by establishing a secure virtual network between the enterprise intranet and the cloud provider. Most implementations use an IPSec VPN and tunnel private VLANs over the link, although some vendors use proprietary software and virtual appliances to build encrypted tunnels—a technical distinction is largely irrelevant to most users.

Aside from increased network security and transparency, VPCs have several other benefits. According to Forrester Research Principal Analyst James Staten, they offer greater control over the network configuration between an enterprise intranet and the cloud provider, including allowing users to define and control the address space, network topology, security policy, and access and protocol controls.

### Cloud Models

VPCs add a fourth deployment model to the existing set of cloud options: public, hosted, and internal (or private). Public clouds represent the most common scenario

### Key Points

- VPCs (virtual private clouds) couple traditional multitenant public cloud services with secure, private networks, enabling tighter, more transparent coupling between enterprise data centers and the cloud provider.
- VPCs allow creation of hybrid computing environments in which some infrastructure and applications reside internally and others are hosted in the cloud, but all appear to be part of the enterprise intranet.
- This hybrid cloud model is appropriate for enterprises that don't want to (or can't) move entire apps to the cloud or those needing temporary increases in capacity to meet peak loads (cloud bursting).

and are what most people think of when they hear the term cloud. These use multitenant virtual servers on shared infrastructure with a common network security model, limited choice of OS and version, and little or no network configuration customization.

Hosted or dedicated clouds are like their public brethren, except that servers aren't shared—each customer's VMs run on dedicated hardware—and can be custom-configured; however, the network is still public and shared. Private or internal clouds are really nothing more than IT-owned and operated virtual server farms with more user-friendly provisioning and usage-based billing. Finally, VPCs are public clouds augmented with private networks, using VPNs and VLANs to extend a company's intranet into the cloud data center.

From a technological standpoint, Glenn Weinstein, CTO and co-founder of Appirio ([www.appirio.com](http://www.appirio.com)) says the secure VPN is a VPC's defining characteristic. However, from a strategic point of view, he adds, "we don't see VPCs so much as an extension to the public cloud as an extension of the data center. If you're not ready to pick up and move wholesale to a cloud application platform . . . instead of adding 10 servers inside your own data center, you extend the boundary inside of [a cloud provider's]."

### Usage Scenarios

As Weinstein suggests, VPCs appeal to established enterprises with existing data centers and infrastructure, not small

startups seeking to minimize their IT investments. Thus, most usage scenarios center on moving or expanding existing applications onto a cloud service.

According to Sundar Raghavan, chief product and marketing officer at Skytap ([www.skytap.com](http://www.skytap.com)), VPCs are attractive for provisioning short-term application development and test environments, pilot testing and migrating new versions of large enterprise applications such as ERP systems, and deploying new systems for training or sales demos. Forrester's Staten sees four primary VPC use cases: stretching or bridging a business service or custom application between the public cloud and internal infrastructure; quickly adding capacity to an internal application during periods of peak loads (so-called cloud bursting); enabling multicast network applications (such as streaming media, teleconferencing, or caching servers) to be hosted on a public cloud; and allowing resources hosted in public clouds to be centrally monitored from the existing enterprise network and server monitoring environment.

### Do You Need It?

The cloud has garnered huge mindshare largely because, as Staten points out, it embodies a highly efficient and scalable maturation of server virtualization. However, he contends that the multitenant public deployment model is a mismatch for many enterprise applications, types of data, and business cases. "There are many applications that require the close coupling of resources that can only be fulfilled from within a single scale-up system. Others require super-low latencies between components and are a best fit for an InfiniBand-based architecture. Still others, such as relational database clusters, are best deployed outside of cloud designs today."

Reuven Cohen, founder and CTO of cloud developer Enomaly ([www.enomaly.com](http://www.enomaly.com)), cautions that although VPCs are usually based on standard network protocols, there's little else standard about the early implementations. He advises potential buyers to investigate each provider's hosting and network infrastructure and determine whether the provider's reliability, geographic diversity, network throughput, latency, and service usability meet their requirements.

Rather than viewing the cloud as an all-or-nothing embrace of public, shared infrastructure, Staten recommends thinking of it as a portfolio of deployment options using all four models. He advises enterprises starting to use public clouds to talk with their service providers and understand the full range of services, their technology and service road map, and their VPC plans. □

## VPC Usage Scenarios

There are several uses for virtual private cloud technology, including:

**Stretching business services across a hybrid cloud scenario.** You may want to take advantage of cloud-computing platforms for some elements of a service-oriented architecture-based business service, but you want other elements to remain within your walls.

**Cloud bursting to address peak traffic periods.** Hosting a persistent service on a pay-per-use platform may not be economical. VPCs let you spread load balancing and a common address pool across infrastructures so you can instantiate VMs in the cloud as needed.

**Turning on multicast protocols.** Some public clouds don't allow multicast communications. But some apps require these protocols to function. A VPC network enables the use of these protocols across deployment environments or within a single cloud deployment without unleashing a multicast storm.

**You want to monitor your cloud deployments like any other data center resource.** Virtual private clouds let you set up overlay networks for specific scenarios such as connections back to the network operations center or a remote service provider.

SOURCE: "WHICH CLOUD COMPUTING IS RIGHT FOR YOU?", FORRESTER RESEARCH REPORT BY JAMES STATEN, APRIL 2009.

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